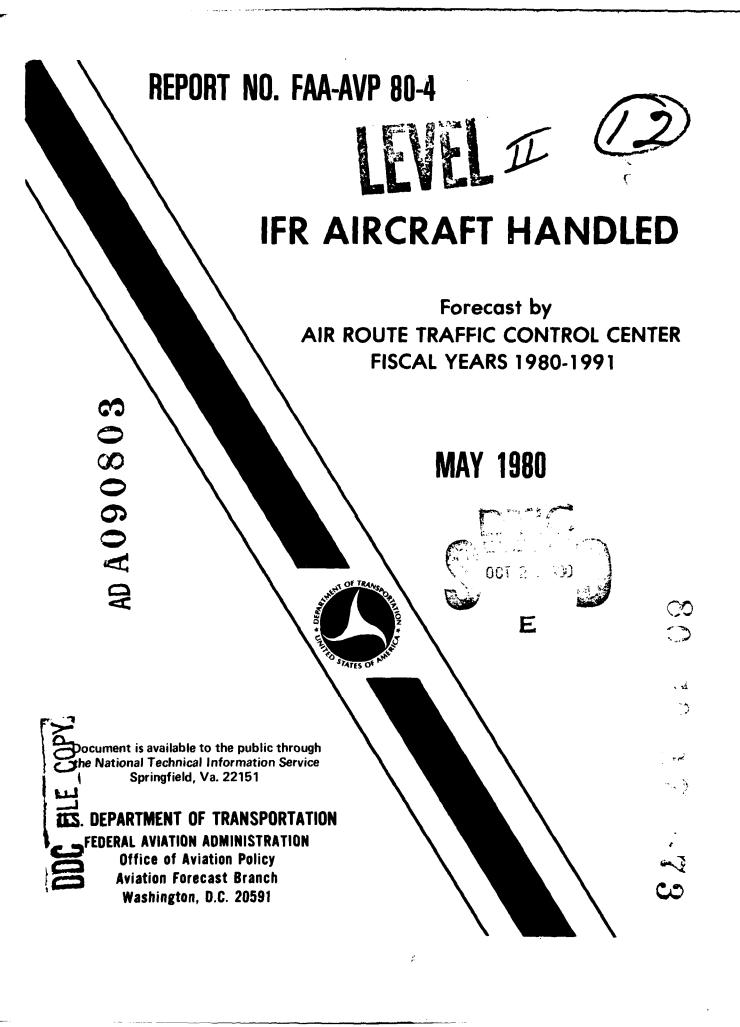
FEDERAL AVIATION ADMINISTRATION WASHINGTON DC OFFICE --ETC F/G 1/2 IFR AIRCRAFT HANDLED FORECAST BY AIR ROUTE TRAFFIC CONTROL CENT--ETC(U) MAY 80 B F HANNAN FAA-AVP-80-4 NL AD-A090 803 UNCLASSIFIED 10=2 AD 4 090808



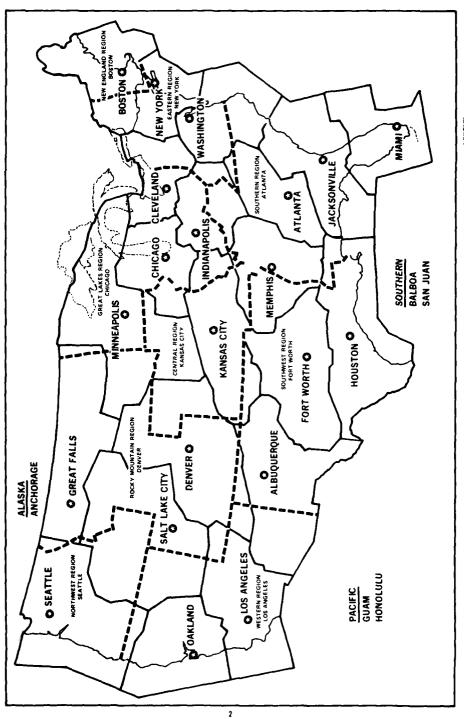
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AIR ROUTE TRAFFIC CONTROL CENTER BOUNDARIES

AFAR REGIONAL BOUNDARIES

ARTCC LOCATIONS

Figure 1

×

INTRODUCTION

This report provides forecasts of Instrument Flight Rule (IFR) aircraft handled by Federal Aviation Administration (FAA) Air Route Traffic Control Centers (ARTCC). The areas covered by each center may be seen on Figure 1. The forecasts serve as a base for the FAA planning and budget process in determining future requirements for facilities, equipment and manpower.

Forecasts of IFR aircraft departures and overs by air carrier, air taxi, general aviation and military categories are presented for fiscal years 1980 through 1991 for ARTCCs in each of the eleven FAA regions. Historical data is also included for the years 1969 through 1979. The forecasts presented in this report agree with the national forecast of IFR aircraft handled, as reported in <u>Aviation Forecasts</u>, <u>Fiscal Years 1980-1991</u>. It should be noted that air taxi operations at centers began to be counted separately on July 1, 1971. Prior to July 1, 1971, much of the air taxi count was included in the air carrier statistics. This change accounts for a decline in national air carrier activity in fiscal year 1972 which is reflected in the data for many individual centers. The national forecast of IFR

Standard and the second

aircraft handled, as reported in <u>Aviation Forecasts</u>, <u>Fiscal Years</u>

1980-1991, calls for a modest growth in air carrier activity, a

substantial increase in general aviation and air taxi IFR flying, and
stabilized level of military activity. The growth rates contained in
the national forecast are:

IFR Aircraft Handled

by

FAA Air Route Traffic Control Centers

	1978-1979 Growth	1979-1991 Annual Growth Rate	1979-1991 Total Growth
General Aviation	3.9%	6.0%	133.3%
Air Taxi	15.8%	7.4%	177.3%
Air Carrier	3.7%	1.9%	25.5%
Military	-	-	-
Total	8.1%	3.5%	62.7%

Forecasts of instantaneous airborne counts for IFR normal and peak day operations are presented for fiscal years 1980 through 1991 for 20 domestic ARTCCs. Historical data is also included for the years 1977 through 1979.

and with control of the

IFR peak day is defined as the day that exhibits the largest number of operations during the year. IFR normal day is the 37th busiest day of the year. An instantaneous airborne count is defined as the maximum number of IFR operations observed at a point in time during the day

Charts A and B on pages 6 and 7 compare instantaneous airborne counts for normal and peak days for the years 1979 and 1991. The comparison shows that the counts will increase significantly at all ARICCs over the next 12 years. The average increase for all centers for normal day operations over the period is 47 percent; the increase for peak day operations is approximately 50 percent.

An index to FAA regions and Air Route Traffic Control Centers is included on page 9 in order to facilitate the use of this report.

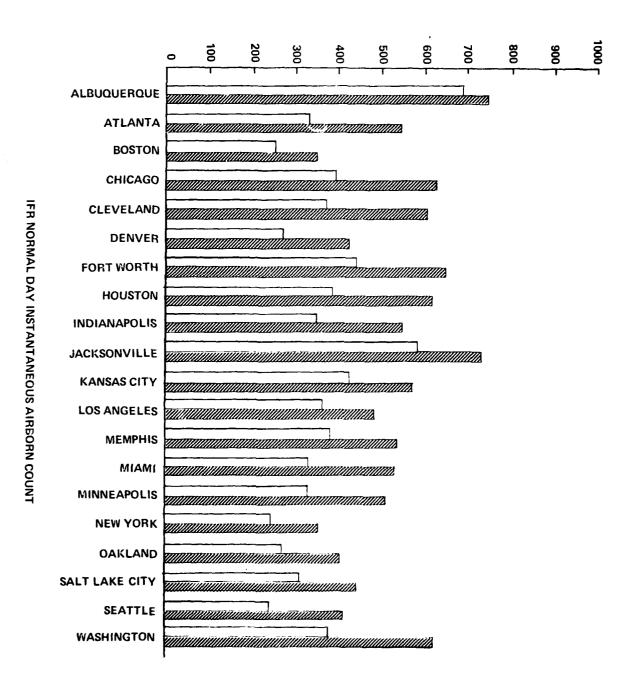
Although regional and center boundaries do not coincide, for purposes of this report the total for a region includes all aircraft handled by centers headquartered within that region.

Copies of this report are available from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22151. Information on the sales price may be obtained from them.

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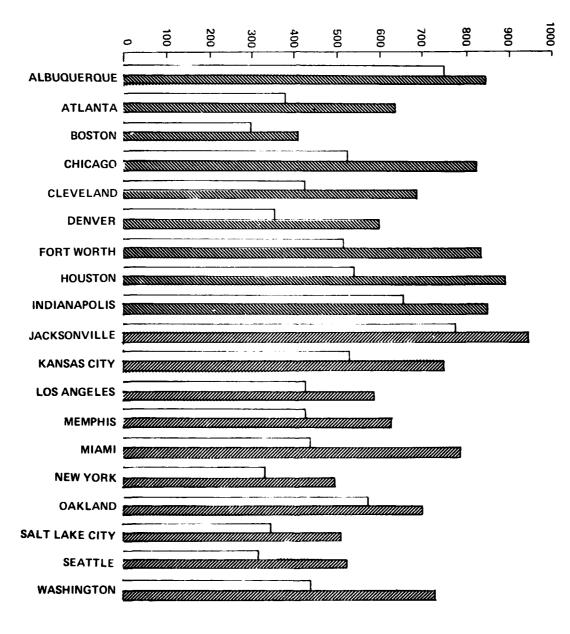


INSTANTANEOUS AIRBORN COUNT





INSTANTANEOUS AIRBORN COUNT



Further information on Specific projections and their underlying assumptions are available from the Aviation Forecast Branch (AVP-120), Federal Aviation Administration, Washington, D.C. 20591, (202) 426-3103.

INDEX TO FAA REGIONS AND AIR ROUTE TRAFFIC CONTROL CENTERS

CENTERS WITHIN EACH REGION

REGIONS

NEW ENGLAND

Boston

EASTERN

New York Washington

SOUTHERN

Atlanta

Balboa

Jacksonville

Memphis

Miami

San Juan

GREAT LAKES

Chicago

Cleveland

Indianapolis

Minneapolis

CENTRAL

Kansas City

SOUTHWEST

Albuquerque

Fort Worth

Houston

ROCKY MOUNTAIN

Denver

Great Falls

Salt Lake City

WESTERN

Los Angeles

Oakland

NORTHWEST

Seattle

ALASKAN

Anchorage

PACIFIC

Guam

Honolulu

U.S. TOTAL

NEW ENGLAND

EASTERN

SOUTHERN

GREAT LAKES

CENTRAL

SOUTHWEST

ROCKY MOUNTAIN

WESTERN

NORTHWEST

ALASKAN

PACIFIC

IFR DAILY OPERATIONS

	Average IFR	IFR Daily	Daily Operations	IFR Nor	IFR Normal Day Operations 1/	erations]/	IFR P	Peak Day Operations	ations
Center	1979	1661	% Change	1979	1991	% Change	1979	1661	% Change
Albuquerque	3,337	4,260	27.7	4,355	5,347	22.8	4,807	6,218	29.4
Atlanta	4,671	7,085	51.7	5,870	9,340	59.1	6,430	10,343	60.9
Boston	3,003	3,973	32.3	4,035	5,653	40.1	5,032	7,324	45.5
Chicago	5,715	8,693	52.1	7,521	11,968	59.1	9,336	15,145	62.2
Cleveland	5,436	8,077.	48.6	7,221	11,310	56.6	8,063	12,738	58.0
Denver	2,721	4,167	53.1	3,312	4,978	50.3	4,065	6,881	69.3
Fort Worth	4,589	6,918	50.8	5,800	9,042	55.9	7,051	11,440	62.2
Houston	4,367	6,734	54.2	5,535	8,425	52.2	7,112	11,638	63.6
Indianapolis	4,397	6,523	48.4	5,810	9,135	57.2	8,454	11,941	41.2
Jacksonville	3,934	5,441	38.3	4,833	6,686	38.3	5,938	7,965	34.1
Kansas City	3,932	5,545	41.0	5,316	7,701	44.9	6,694	10,182	52.1
Los Angeles	3,964	5,556	40.2	4,690	6,583	40.4	5,714	8,483	48.5
Memphis Miami Minneapolis <u>2</u> / New York	4,044 4,066 3,595 4,860	6,038 5,973 5,315 6,729	49.3 46.9 47.8 38.5	5,194 4,820 4,638 5,613	7,805 7,674 7,103 7,994	50.3 59.2 53.1 42.4	6,127 6,016 N.A. 7,316	9,830 9,817 N.A.	60.4 63.2 N.A. 48.5
Oakland	3,381	4,868	44.0	4,436	6,750	52.2	6,327	8,771	38.6
Salt Lake City	2,164	3,156	45.8	2,873	4,608	60.4	3,312	5,455	64.7
Seattle	2,658	4,425	66.5	3,618	6,230	72.2	4,652	8,171	75.6
Washington	4,468	6,603	47.8	5,616	8,797	56.6	6,306	10,026	59.0

1/ IFR Normal Day represents the Center's 37th busiest day.

 $[\]underline{2}/$ IFR Peak Day operations not available for the Minneapolis Center.

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1		TUTAL		1121	1175	1133	1184	1173	1166	1196	1172	1221	1344	1342	1.373	1425	1441	1569	1618	1668	1739	1798	1836	1875	1917	1955
		A IRCFT HANDLED		27.16	2826	2746	787	2894	5869	59*4	5882	3063	3330	3405	3477	3595	3754	3936	4046	4168	4332	‡ 73	4569	0994	4767	4866
		ì	1	1969	1970	161	761	1973	1974	1975	1976	161	1978	1979	1980	1981	1982	1983	1964	1985	1986	1981	1988	1989	0661	1661

NOTE: FIGURES IN THOUSANDS PHECEDING PACE BLANK-NOT FILMED

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IFR AIRCRAFT MANDLED BY USER CATEGURY

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1		H] (1	18	15	92	61	19	19	91	75	13	12	21	21	20	20	19	9	2	18	2	18	17	17	
		GEN	1	-	-	-	7	+	m	7	7	4	~	•	5 0	•	•	-	~	_	~	^	_	~	•	•
	OCEANIC	AIR TAXI	-	0	0	0	0	0	0	0	0	~	•	-	-	7	7	7	~	7	7	2	~	~	~	. 1
		AIR	i	65	3	59	11	89	90	13	63	69	65	\$	\$	93	82	83	81	83	83	46	82	85	87	
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		A I A	1	ぷ	75	98	09	11	73	86	103	112	127	145	141	150	25	162	163	169	176	191	186	161	196	
	1 1 1	TGTAL	1	161	196	210	228	228	523	237	237	261	282	338	345	354	363	378	384	395	904	417	427	433	4	
	i !	MIL	1	39	33	31	35	32	90	31	30	30	32	*	;	43	4 3	42	9	39	38	37	36	35	35	
	, ; ;	GEN		112	118	115	127	139	145	157	158	162	161	206	509	522	240	566	281	252	310	また	333	345	351	
TURES	! ! !	AIR TAXI		0	0	0	=	77	35	25	84	\$	12	\$	\$	96	201	117	122	170	142	140	149	155	160	
UEPARTUR	; ; ;	AIR	-	522	520	46	477	476	11	415	395	412	‡	384	388	392	396	9	405	408	414	425	430	433	438	•
		TUTAL		673	671	614	650	693	651	655	631	653	744	118	731	756	788	825	\$	898	406	932	946	965	984	
		A IRCFT HANDLED		1537	1538	1+38	1526	1566	1531	1547	1499	1567	1770	1774	1807	1866	1939	2028	2080	2131	22.14	2281	2323	2363	2414	
		-	: 1	1969	1970	1971	22.61	1973	1974	1975	1976	1977	1978	1979	1960	1961	1582	1983	1984	1985	1986	1987	1988	1989	7990	

NOTE: FIGURES IN THOUSANUS

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IFR UALLY OPERATIONS AND INSTANTAMEDUS ATRBURN CUUNTS

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	IFR PCAK	DAY	1FK NOKMAL	DAY
TEAR	TEAK UPERATION IA	IAL	UPEKATIUN IAC	IAC
1577	0173	272	1464	203
1910	6011	310	5604	233
4167	7216	337	5443	242
1580	1000	354	5885	253
1961	1948	360	6062	197
1 93 2	4000	384	0679	27.2
1965	5100	405	6224	582
1 96 1	750%	274	c 766	587
1505	7305	254	6931	300
1961	4716	440	1208	313
1 66 1	1001	401	7413	371
19c c	10631	47.1	7503	328
7 % T	10430	794	1695	553
1990	10059	744	7855	045
1361	10003	854	1661	346

NEW NITE	i	•	1	DEPARTUR	A TURES	1	ł 1	1 1 1	1	1	- 1	OVERS	1	1 2		1
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280 195 0 46 39 0 0 0 270 194 0 42 34 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	448 274 N	274 n	c		2	_	103	283	202	0	7	40	0	0	٥	0
270 194 0 42 34 0 0 275 197 0 45 33 0 0 0 368 244 1 51 24 0 0 0 311 229 3 58 21 0 0 0 314 226 3 62 21 0 0 0 348 251 4 69 24 0 0 0 380 267 4 86 26 0 0 0 470 267 6 92 26 0 0 0 470 275 8 117 26 0 0 0 470 297 9 139 25 0 0 0 487 308 10 146 23 0 0 0 487 308 10 146 23 0 0 0 600 297 9 139 25 0 0 0 600 297 9 146 23 0 0 0 600 297 9 146	204 300 0	300	0		6	_	113	280	195	c	\$	8	0	0	0	0
275 197 0 45 33 0 0 320 244 1 51 24 0 0 0 311 229 3 58 21 0 0 0 346 229 3 58 21 0 0 0 360 253 4 76 27 0 0 0 361 253 4 76 27 0 0 0 362 253 4 76 27 0 0 0 363 267 4 86 26 0 0 0 470 273 7 98 25 0 0 0 470 275 8 117 25 0 0 0 448 286 9 128 25 0 0 0 440 297 9 139 25 0 0 0 487 308 10 146 23 0 0 0 600 297 9 139 25 0 0 0 600 313 11 153 <	519 297	297 0	0		100		122	270	194	0	45	A T	0	0	0	0
320 244 1 51 24 0 0 0 0 313 1 229 3 58 21 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	534 287 9	287 9	•		ž		134	275	197	٥	45	33	0	0	•	0
308 234 2 52 20 0 0 311 229 3 58 21 0 0 0 348 228 4 76 27 0 0 0 385 267 4 86 26 0 0 0 391 267 6 92 26 0 0 0 470 277 7 111 25 0 0 0 426 277 7 111 25 0 0 0 426 277 7 111 25 0 0 0 426 277 7 111 25 0 0 0 0 426 275 8 117 26 0 0 0 0 0 448 286 9 128 25 0 0 0 0 440 297 9 139 25 0 0 0 0 477	6 997 409	6 997	σ		116		113	3 %	244	-	21	ž	0	0	0	0
311 229 3 58 21 0 0 348 228 3 62 21 0 0 0 360 253 4 76 27 0 0 0 0 383 267 4 86 26 0 0 0 0 391 267 6 92 26 0 0 0 0 420 277 7 111 25 0 0 0 0 0 420 277 7 111 25 0 <td>515 261 11</td> <td>11 192</td> <td>11</td> <td></td> <td>130</td> <td></td> <td>113</td> <td>308</td> <td>234</td> <td>7</td> <td>25</td> <td>2</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td>	515 261 11	11 192	11		130		113	308	234	7	25	2	0	0	0	0
314	543 255 22	255 22	22		145		121	311	529	m	8	21	0	•	•	0
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36C 253 4 76 27 0 0 383 267 4 86 26 0 0 0 38b 269 5 86 26 0 0 0 470 273 7 98 25 0 0 0 420 273 7 98 25 0 0 0 420 273 7 111 25 0 0 0 42c 277 7 111 25 0 0 0 437 281 8 117 26 0 0 0 0 448 286 9 128 25 0 0 0 0 440 296 297 9 135 24 0 0 0 477 303 9 141 24 0 0 0 487 308 10 146 23 0 0 0 500 313 1	574 272 23	272 23	23		158		121	348	251	4	69	54	0	0	0	0
383 267 4 86 26 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000 274 25	274 25	52		181		120	396	253	4	2	27	0	0	0	0
38b 269 5 86 26 0 0 391 267 6 92 26 0 0 403 273 7 98 25 0 0 0 426 277 7 111 25 0 0 0 43c 277 7 111 25 0 0 0 43 286 9 123 25 0 0 0 440 29c 9 136 25 0 0 0 470 297 9 139 25 0 0 0 487 308 10 146 23 0 0 0 500 313 11 153 23 0 0 0		72 915	7.7		201		120	383	267	4	86	5 6	0	0	0	0
386 269 5 86 26 0 0 391 267 6 92 26 0 0 0 426 273 7 11 25 0 0 0 426 277 7 111 25 0 0 0 436 275 8 117 26 0 0 0 437 286 9 128 25 0 0 0 460 292 9 139 25 0 0 0 470 297 9 139 25 0 0 0 487 308 10 146 23 0 0 0 500 313 11 153 23 0 0 0																
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426 277 7 111 25 0 0 0 426 275 8 117 26 0 0 0 0 437 286 9 128 25 0 0 0 0 440 297 9 135 24 0 0 0 0 470 297 9 139 25 0 0 0 0 477 303 9 141 24 0 0 0 0 487 308 10 146 23 0 0 0 0 500 313 11 153 23 0 0 0 0	JO6 296 SE	967	*		157		123	403	273	_	96	25	0	0	0	0
426 275 8 117 26 0 0 437 281 8 123 25 0 0 0 448 286 9 128 25 0 0 0 460 292 9 135 24 0 0 0 470 297 9 139 25 0 0 0 477 303 9 141 24 0 0 0 487 308 10 146 23 0 0 0 500 313 11 153 23 0 0 0	744 301 42	301 +2	?		278		123	420	277	~	111	57	0	0	0	0
437 281 8 123 25 0 0 0 448 286 9 126 25 0 0 0 460 292 9 135 24 0 0 0 470 297 9 139 25 0 0 0 477 303 9 141 24 0 0 0 487 308 10 146 23 0 0 0 500 313 11 153 23 0 0 0	770 306 44	306	ž		167		123	456	275	œ	117	56	0	0	0	0
448 286 9 128 25 0 0 0 460 292 9 135 24 0 0 0 470 297 9 139 25 0 0 0 477 303 9 141 24 0 0 0 487 308 10 146 23 0 0 0 500 313 11 153 23 0 0 0	800 311 49	311 +9	6+		316		124	437	182	80	123	25	0	0	0	0
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470 297 9 139 25 0 0 0 477 303 9 141 24 0 0 0 487 308 10 146 23 0 0 0 500 313 11 153 23 0 0 0	866 328 58	326 56	26	•	354		126	460	262	6	135	54	0	0	0	0
477 303 9 141 24 0 0 0 0 487 308 10 146 23 0 0 0 0 500 313 11 153 23 0 0 0	888 333 62	333 02	3		366		127	470	162	٥	139	52	0	0	0	0
487 308 10 146 23 0 0 0 0 500 313 11 153 23 0 0 0	910 338 65	338 65	65		380		127	477	303	o	141	77	0	0	0	0
500 313 11 153 23 0 0 0	933 343 69	343 69	69		392		129	487	308	9	146	5 3	0	0	0	0
	455 348 73	348 73	73		405		129	200	313	11	153	23	0	0	O	6

NOTE: FIGURES IN THOUSANDS

1FR DAILY UPERATIONS AND INSTANTANEUUS AIRBURN LUUNTS

MASHINGTON

	1FR FEAR	OAY	IFR NUKMA	L DAY
YEAR	UPERATION LAC	IAC	C UPERATION TAC	1AC
1 477	764	35.5	070 c	44
P151	5vol	774	4550	\$
1717	979	447	5010	337
1780	050	403	5199	368
1201	6953	480	4909	417
7051	1771	211	4040	1
£ 38.3	7032	150	581.0	, 14
1 784	7774	576	7050	493
1 965	6303	665	7915	517
1730	4500	62 d	7040	554
1 96 1	5015	769	1923	750
1963	そうう	710	8128	574
1 7 C 7	6046	6 0%	655.5	289
064.1	9754	700	0561	200
1441	10026	730	1619	424

MIL CAR TAXI AVI 274 172 0 23 259 191 0 23 250 195 0 24 219 190 16 27 223 197 16 27 233 180 16 29 234 240 9 9 284 240 9 50 285 258 13 50 285 259 17 58 286 265 22 288 265 22 288 265 22 288 265 22 288 265 22 288 265 22 288 265 22 288 265 22 288 265 22 288 265 22 288 265 22 288 265 25 288 265 25 288 265 25 288 265 25 288 265 25 288 265 25 288 265 25 288 265 25 288 265 25 288 265 25 288 265 25 288 265 25 288 265 25 288 265 25 288 265 25 288 265 25 288 265 25 288 265 25 288 265 25 288 269 25 299 278 299	DEPARTURES
CAR TAXI 1912 0 1995 1996 1996 1996 1996 1997 1998 1998 1998 1998 1998 1998 1998	
191 191 195 196 197 198 198 198 198 198 198 259 259 274 268 278 278 278 278 278 278 278 278 278 27	CAR TAXI AVI MIL TOTAL
191 195 196 197 197 198 198 240 254 13 254 13 269 259 274 269 274 269 274 288 278 288 294 34	843 0 235 313 1080 456
195 190 194 194 195 195 195 195 240 254 254 13 255 13 255 257 269 274 278 278 294 34	932 0 270 327 1155
190 16 194 16 195 16 198 16 198 240 254 9 254 9 255 13 265 25 265 27 268 32 294 34	935 0 267 348 1205
197 196 198 198 198 198 198 198 254 259 269 274 268 278 278 278 278 278 278 278 278 278 27	865 105 342 406 1289 597 1
194 195 195 195 240 254 254 257 253 253 263 263 263 263 274 278 278 278 278 278 278 278 278	911 96 415 390 1273
182 180 180 180 180 180 180 254 259 263 265 265 274 278 278 278 278 278 278 278 278 278 278	918 97 465 347 1278 621 3
180 195 195 254 254 255 13 253 263 263 265 269 274 278 278 278 294 34	880 110 495 350 1314
195 240 254 254 257 263 263 265 269 274 278 278 298 294 34	880 112 514 315 1371
240 254 257 259 263 263 264 269 274 278 278 278 278 278 278 278 278 278 278	927 112 579 356 1491
254 9 258 13 257 14 262 21 265 21 265 22 274 26 278 29 278 29 278 29 294 34	1000 112 691 378 1683
258 257 259 263 263 265 265 274 278 278 278 288 294 34	356 1798 847 9
257 263 263 263 262 265 269 274 278 278 26 278 26 278 29 29 29 29	11 970 1001 990 600 171 1901
259 262 262 262 265 274 278 278 288 294 34	100 100 100 100 100 100 100 100 100 100
263 262 265 265 274 278 278 298 294 33	2560 1086 149 951 354 1935 903 14 380
262 265 269 269 274 278 278 298 294 34	1104 215 1032 352 2042 935 14
265 269 274 278 278 298 32 294 34	1123 232 1094 352 2084 941
269 25 274 26 278 29 278 30 288 32 294 34	1143 245 1163 351 2149 969
274 26 278 29 278 30 288 32 294 34	1162 269 1223 352 2217 997
278 29 278 30 288 32 294 34	1205 286 1291 352 2285 1024
278 30 288 32 294 34	1224 304 1337 354 2347 1050
288 32 294 34	1247 315 1363 351 2392 1081
294 34	1264 327 1429 351 2464 1106
	1284 341 1474 353 2532 1133

NOTE: FIGURES IN THOUSANDS

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IFR AIRCRAFT HANDLED BY USER CATEGORY

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		1	DEPARTUR	TURES	 	1	1		1	- 1	DVERS	((((
) 	 	1 3 1	1 3) } 		DOMES	TIC] }		OCEANIC));	
	A IR CFT		AIR	AIR	GEN			AIR	AIR	GEN) ! }	AIR	AIR	SEN I]
Ŧ	HANDLED	TUTAL	CAR	TAXI	1	HIL	TOTAL	CAR	TAXI	AVI	MIL	CAR	TAXI	Y A I	HIL
;			1	!	ł					ł	[İ		1	1
1969	*601	*38	767	0	28	69	218	93	0	33	92	0	0	0	0
1970	1167	474	318	0	88	67	219	707	0	37	80	0	0	0	6
1971	1169	472	313	0	t	69	225	104	0	39	82	0	0	0	0
1972	1971	503	324	*	110	69	255	110	0	45	8	0	0	0	0
1973	1362	556	345	*	143	40	250	110	0	55	80	0	0	0	0
1974	1409	579	347	5	166	29	157	111	0	R	82	0	0	•	0
1975	1389	565	334	٥	165	09	528	115	¢	63	81	٥	0	0	0
1976	1+00	570	339	30	170	53	560	118	-1	89	73	0	0	0	o
1977	1496	109	344	1	191	25	594	131	7	81	80	0	0	0	0
1978	1612	655	381	ม	750	39	305	135	m	95	72	0	0	0	0
1979	1705	689	375	72	248	39	327	147	М	102	75	0	0	0	0
1980	1738	704	383	67	253	36	330	149	e	104	*	•	0	•	0
1961	1610	734	389	31	274	0	342	150	٣	114	75	0	0	0	0
1967	1697	171	395	33	301	7.4	355	153	m	123	76	0	0	0	0
1983	2001	404	402	37	327	43	383	158	m	141	æ	0	0	0	0
1964	2071	838	408	39	347	44	39.5	158	m	154	0	0	0	0	0
1965	21 5 2	670	415	14	369	45	412	163	~	164	82	0	0	0	0
1966	2229	10	421	4	388	47	427	167	2	175	83	0	c	0	c
1987	2329	646	435	4 8	411	64	544	171	m	185	48	0	0	0	0
1988	2395	896	745	20	456	<u>ئ</u>	459	177	М	193	98	0	0	0	0
1989	2453	663	40	25	447	15	467	181	M	195	88	0	0	0	0
1950	2517	1016	455	54	455	55	485	186	m	206	90	0	0	0	0
1661	2586	1042	161	20	471	2,4	205	161	M	216	26	0	0	0	0

NOTE: FIGURES IN THOUSANDS

IFK DAILY OPERATIONS AND INSTANTANEUDS ATREUKN COUNTS

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	1FR PEAK	UAY	IFR MURMA	L DAY
YEAR	UPERATION IA	IAc	UPEKATIUN IAC	IAC
1231	353 <u>8</u>	325	5010	+8.7
17/8	5981	2+6	5466	301
6261	0420	37.5	5870	329
0841	R79 0	387	6040	534
エジンス	1760	40	\$460) Cr
7967	1357	445	1990	378
1903	1746	407	897	407
1934	9120	490	7,206	454
1405	848	505	1061	444
7 980	0688	533	***!	463
1 90 1	4251	558	8566	183
1 988	4554	575	8621	201
1 78 9	9170	765	8443	514
1990	74001	6 06	1104	165
7667	10343	170	9340	241

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1	OCEANIC	AIR	•	• =	0	6	0	0	0 0	o c		0	•	c	0	0	0	0	0	0	0	0	0	· c	· c	,
1	 	AIR		3 2	16	22	17	19	ର :	21	, ,	;	,	4	22	2 2	20	20	10	61		2	12	- a	0 C	4
UVERS		MIL	°	> c	, c	. 0	0	0	0	۰ ۵		•	>	c	•	c	0	· c	· c	, c	,	· c	, c	,	•	,
3))	GEN I	! ')	> C	· c	0	0	0	-	٠.	4 ^	•	•	٠,	4 =	-	4 ^	4 0	. "	1 4	t 4	• 4	۲ ،	• <	r
	UUMEST1C	AI R TAXI	'	0 (.	•	0	0	0	0 6	•	3 6	>	(-	-	•	•) c	•	,	•	•	> 0	> <	>
	(I A LR I	1	9	> <	o c	~	S	~	۰:	1 ;	71.	7.7	;	1;	::	1:	;	1:	12	2 5	2 .	2 -	7 :	-1 P	1
	í 1 <i>i</i> 1	TOTAL	1	56	52	r: 7	2 2	1.2	31	35	Ç (ĵ.	7,	,	ာ (5 0 0	7 6	,	? •	? ?	7	* .	; ;	\$:	4 . V :	ţ
	l 1	MIL	1	7	· v	> -	4 100	4	4	7	2	2 (M	!	m) (4 1 (n ·	ባ ′	٦ (9	n i	v i	.	4	•	4
	1 1 1	GEN	}	-4	ပ	5 C	.	> ~	1 M	~	m	. 1)	M		M)	m (7) 1	∙0 .	* •	•	٥	٥	! ٥	_	_	~-
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DEPARTURE	 	AIR	1	=	9	ο.	٥ ۲	4 =	8	11	18	11	18		16	61	20	20	21	21	22	24	42	25	52	52
	1 1	T07AL		**	12	11	۲,	7.7	25	12	23	22	5 7		ÇŞ	\$	\$	97	62	67	35	\$ 1	35	37	37	37
		A IR CF T		54		45	4 (9 4	- e		86	8 4	96		06	83	26	16	96	96	106	112	114	118	119	119
		<u> </u>	: 1	6961	1970	17 61	1972	1973	17.01	1976	1977	19 76	1979		1980	1961	1982	1983	1984	1985	1986	1961	1986	1989	1950	1661

NOTE: FIGURES IN THUUSANDS

IFR DAILY OPERATIONS AND

	1	NS FANTANELUS	INSTANTANELUS ATRBUKN CCUNTS	
JACKSUNVILLE	VILLE			
	IFR PEAR DAY	DAY	IFR NURMAL DAY	CAY
TEAR	UPERATION	IAC	UPERATION	JAC
			4 - 4 - 4 - 4 - 4 - 4	
1977	5059	707	4003	515
1578	5736	833	1212	619
1777	5938	784	E634	5 80
1980	8000	79.c	4933	598
1061	6207	018	5070	011
7867	6435	37.1	5217	270
1 983	8999	242	5445	447
1 22 1	0700	5 4 4	5630	469
1985	1030	675	5817	909
1930	(11)	c R S	5450	68¢
1 94 1	7384	503	1510	269
1 98 B	7520	016	67.79	305
1 737	1651	921	6408	715
1550	1190	932	6530	124
1661	7405	945	0800	136

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	11: 31	1 1 3 1 4 1	AVI	1	46	\$ \$	3 3	; ;	76	5	79	2	74	77	- 6	۲,	109		111	121	130	149	1 60		0	117	187	194	104	200	23.6	o t 7
1	DOMEST IC		TAXI		0	• •	.	•	•	۰ د		-	~	~	٠-	• •	-	•	7	•	m	m	•	٦ ٨	٠ ١	>	٠,	m	F41	. (*) (f	1
(((] } ! !	AIR	CAR	1	217	737	266	263	200	200	163	667	327	319	34.5	1	3 % 0	Ş	640	70	914	430	4.42	1 4	i d	0 (2 ;	482	404	505	517	•
1 1 1	 - 		TOTAL	•	332	370	39.2		4) ·	3 1 1	424	469	484	20	1	940	107	3	670	\$	675	585	707	200	071	16)	200	782	80.5	874	;
,			MIL		131	142	130	155	145	131			124	150	184		661	4		9 .	00	156	555	56	4	2 4	2	٥	55.5	55	156	,
1		GEN	٨٧١				99																								285	
ES			TAXI	•			0																								20 2	
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ا <u>ه</u>		AI	CAR	} :	2	i	77	2	ŏ	6	œ		0	2	76	60		96	8		4 6	SOT :	105	107	108	112	134	4 .	110	118	120	
1		!	TOTAL	9	207	312	304	345	337	327	326	218		305	1 3	420	!	456	\$	4			7 A.¥	203	518	535	4	9	200	268	281	
		AIRCFT	HAMOLFD	000	460	766	0001	1105	1079	1004	1601	1105	000	90.74	1961	1+36		1459	1502	1563	14.20	7,77	1007	1721	1764	1921	1865	9081	0601	1939	1986	
		ì	:	1940		1970	161	1972	1973	1974	1975	1976	1077		87.41	1979		1980	1961	1982	1643	1001		1985	1980	1987	1986	1989	000	1790	1991	

MOTE: FIGURES IN THOUSANDS

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ı	0	57	ņ	523	116	0	38	75	0	0	0	0
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	c	73	64	261	101	0	‡	3 2	0	0	o	0
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)		201	68	47.1	77.7	•	101	18	0	0	0	3
61	_	213	18	484	283	~	106	96	0	0	0	0
	3	231	87	507	296	&	116	87	0	0	0	0
	S	750	60 60	536	80°	Ð	133	87	0	0	0	c
	٥	292	86	550	313	ው	140	80	0	0	0	0
	'n	276	4	570	324	2	148	88	0	0	0	۰
	£	167	4	265	136	7	156	89	0	0	٥	٥.
	0	306	8 3	611	747	7	104	69	0	0	0	0
	ς.	316	63	629	356	7	171	90	0	0	0	0
	•	326	81	544	368	13	174	89	0	0	0	0
	4	337	79	663	377	14	182	8	0	0	0	0
	3	74.7	=	, A.	7 47	5	6	8	0	0	0	0

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MOTE: FIGURES IN THOUSANDS

IFR DAILY OPERATIONS AND INSTANTANEULS AIRBURN COUNTS

MEMPHIS

	IFN PEAK	DAY	IFR NORMA	LUAY
FA	UPERATION TAC	IAL	OPEKAT IUN IAC	IAC
	4951	346	4320	330
818	5535	784	1714	353
616	6127	454	5124	387
096	9070	430	5308	168
184	9969	144	5493	104
786	1669	710	5774	614
983	4042	L74	6076	436
964	1045	514	6288	1
585	8037	535	6524	461
390	1658	555	0770	410
186	6765	576	7.5.	144
286	2406	592	7771	205
787	9776	\$0	7408	509
055	y553	623	7012	523
<u>ş</u>	4830	634	7805	533

		1	DE PAR	TURES	(1	(1	(- (DVERS	(((1	1
)))	,) 	! !			DOMES	710			OCEANIC	22) (
?	AIRCFT		AIA	AIR	GEN	,		A I A	AIR	N N N N N N N N N N N N N N N N N N N		AIR	AIR		
: I	MADLED	וחואר	š	IAXI	!	#	TOTAL	šl	TXY.	 	#	š	TYY.	!	į
1969	869	349	243	0	25	54	171	27	0	ĸ	52	*	•	=	92
1970	915	371	366	0	56	4	170	20	0	m	8	92	0	15	20
1971	926	373	266	0	96	51	180	54	0	M	61	96	0	11	17
1972	1024	414	248	32	20	69	186	5 0	-	'n	19	8	જ	91	2
1973	10.32	* 59	264	52	85	58	11	22	0	7	ฮ	93	13	19	2
1974	1725	*28	260	8	8.7	64	169	22	0	2	2	92	2	10	٠
1975	1027	431	246	?	95	50	165	21	6	~	14	46	13	21	01
1976	1039	434	248	37	102	47	171	21	0	7	9	89	១	22	12
1977	1187	28	282	31	125	62	187	20	0	M	91	86	2	27	13
1978	1378	201	308	3	154	99	256	24	0	*	58	142	•	37	15
6161	1484	209	334	35	176	79	270	*2	•	_	53	153	'n	9	2
1980	1526	624	343	37	183	61	278	8	0	_	62	97	~	0	12
1961	1578	649	347	7	200	9	282	22	0	4	82	162	€	42	77
7867	1641	919	350	45	222	66	289	21	0	1	72	167	2	45	75
1983	1720	707	354	15	244	56	306	22	0	80	27	174	77	90	13
1984	1778	132	359	55	261	57	314	21	0	•	27	176	2	22	ย
1985	1837	759	365	9	278	ያ	319	50	0	~	2	181	15	57	13
1986	1061	787	371	8	295	22	32.7	20	0	60	ĸ	186	91	59	13
1987	1974	670	98°	92	312	3	336	5 0	0	_	5 4	192	ક	19	13
1988	2028	249	389	26	323	54	344	61	0	~	23	961	21	49	*1
1989	20.75	198	395	٤	334	53	353	20	0	_	24	199	2	99	2
1990	2127	881	00*	6	347	15	365	5 0	0	٥	23	208	54	69	15
1661	2180	903	401	9	357	51	374	20	0	•	22	213	92	72	15

NOTE: FIGURES IN THOUSANDS

IFR DAILY OPERATIONS AND INSTANTANEOUS AIRBORN COUNTS

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	IFR PEAK	DAY	1FK NGRMA	L DAY
YEAK	UFERATION IAC	IAL	UPEKATION JAC	IAC
1411	4704	340	3797	202
6167	5512	104	1755	906
1517	9109	1	4820	334
786	6403	473	5.204	359
1 28 1	0140	ر <i>ب</i> روچ	2365	37 E
7 26 7	2010	555	1606	703
1983	9761	570	2952	430
1904	1019	<099	6165	450
1 735	0115	632	5850	472
1400	3349	400	0045	474
1961	2810	694	6769	516
1563	0606	120	11.22	535
1907	1.056	739	7278	244
7 66 1	9006	763	7478	566
1441	106	165	1614	285

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i				17	Ä	-	_			•	-			-		•				-	-	•	-	-		•
(21	GEN		٠	~	٠	•	•	∞	•	•	^	•	•	•	•	01	13	13	*1	14	15	16	91	17	18
1	OCE ANIC	AIR		0	0	0	-	m	~	m	m	M	m	*	•	•	~	7	^	_	٥	-	2 0	•	80	80
1		AIR		77	80	80	82	69	83	78	**	75	75	77	75	73	2	69	3	65	40	63	63	62	62	63
OVERS	, ; () (T T	1	-	-1	-	-	~	-4	0	-	0	0	0	0	0	0	0	0	0	0	-	-		-	-
	22	GEN		0	~	~	-	-	-		-	~	~	-	~	m	•	•	m)	4	m	m	m	m	М	M
1	DUMESTIC	AIR TAXI		0	6	0	0	0	0	0	0	٥	0	0	0	0	0	0	0	0	0	0	0	٥	0	0
1		AIR		m	4	•	*	m	ĸħ	c	'n	ß	٥	٥	•	s	٥	٥	٥	٥	٥	٥	9	۲	7	~
1		TOTAL		104	101	104	105	104	103	93	95	96	66	101	102	101	101	103	100	101	101	000	102	707	103	105
1	! !	W Tr		>	3 0	~	٠	٥	m	m	٣	٥	'n	~	_	~	~	^	1	~	~	^	7	^	7	1
1		GEN	1	~	٥	•	٥	'n	4	ŝ	Δ	'n	٥	٥	٠	٥	٥	٥	٥	1	~	7	7	^	۲	7
TUKES		AIR		6	0	٥	45	;	87	*2	54	61	*	*	97	88	33	36	ç	1	4 5	6*	53	52	Ş	5 E
DEPAKTUKES		AIR	1	67	10	9	47	1.4	47	45	7,	39	39	36	4	7	74	\$	\$ A)	4	47	20	51	ž	55	99
! ! !	ı	•	•												52	82	86	66	96	101	700	113	118	173	125	128
		A 1RCFT MANDLED		266	287	310	307	306	767	241	747	73*	727	723	260	265	273	583	296	303	313	326	338	244	353	361
		ţ	ı	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1661

NOTE: FIGURES IN THOUSANDS

Although San Juan is still functioning as an Air Route Traffic Control Center, they ceased reporting aircraft handled data in May 1979. Fiscal year 1979 data is an estimate.

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	UCEANIC	NXX	00000000000
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0	1 2 21	GE 1 163 164 164 164 164 164 164 164 164 164 164	386 415 445 503 539 628 653 688 719
	DOMEST	A A I A A I	1444888181
	1 1	AIR CAR CAR 1794 676 872 913 924 883 935 935	1016 1008 10031 1046 1065 1065 1104 1127 1146 1191
	1 1 1	107AL 1174- 1217- 1205- 1283- 1329- 1310- 1404- 1462- 1662- 1662- 1607-	1613 1640 1696 1782 1811 1928 1979 2031 2031 2160 2178
	1	ALL 1131 1113 1122 1123 1138 1143 1143	151 150 146 146 146 143 141 140 137
	1	GEN 4V1 473 550 550 550 665 711 787 872 872	1119 1196 1304 1411 1489 1566 1647 1776 1776 1828 1881
73711	4	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	318 348 318 436 436 495 595 613 613
9	1 1 1 .	AIR CAR 1221 1221 1225 1115 11106 11093 11129 11129 11134	1156 1170 1187 1202 1202 1235 1250 1250 1306 1322 1338
	1	101AL 1825 1892 1875 2050 2106 2260 2260 2260 2260 2567 2567 2567	2744 2460 3197 3199 3199 3190 3190 3190 3190 3190 3190
		AIRCFT HANDLED +824 5001 4757 5733 5790 5790 5791 5790 6987	7101 7372 7372 7372 8172 6449 8746 9114 9459 9701 10182
		FY 1969 1970 1972 1973 1973 1975 1975 1975 1975 1975 1975 1975 1976 1977 1978 1978 1978 1978 1978 1978 1978	1980 1981 1982 1983 1984 1986 1986 1986 1989

NOTE: FIGURES IN THOUSANDS

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		1	DEPARTUR	RTURES	((1		1) 	OVERS	1	1 1 1	!	
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	AIRCFT		AIR	AIR	GEN			AIA	AIR	CEN I	! !	A I A	A I.R	1 43.9 1 43.9)
<u>`</u>	HANDLED	TOTAL	CAR	TAXI	AVI	HIL	TOTAL	3	TAXI	AVI	AIL	CAR	TAXI	AVI	MIL
1			-	1		1		1	1	1	ţ	ţ	1	1	1
1969	1645	402	519	0	149	34	233	941	٥	30	57	0	0		٥
1970	17.20	138	Z	0	162	35	742	170	٥	33	14	0	0	0	0
1971	1663	714	483	0	191	46	235	191	0	*	0+	0	0	0	0
2761	1594	88	\$	\$	173	54	23 6	342	m	34	39	0	٥	0	0
1973	1606	101	419	56	205	67	204	117	^	46	34	0	0	٥	0
1974	1991	621	407	67	223	67	203	116	•	25	29	٥	0	0	٥
1975	1782	785	430	80	258	7.1	212	121	*	57	8	٥	0	0	0
1976	1851	814	454	90	260	78	223	129	4	59	30	0	0	0	0
1977	1436	909	437	69	267	~	224	127	•	*	72	0	0	0	0
1978	1961	871	432	112	311	97	239	130	80	2	52	0	0	0	0
62.61	2086	905	453	110	353	74	276	155	2	69	92	0	0	0	•
0961	2123	422	428	120	355	16	279	156	11	86	92	0	0	0	0
1961	2206	98	432	132	377	16	286	154	11	*	27	0	0	•	0
1982	2309	1005	437	<u> </u>	40	31	662	158	73	102	12	0	0	0	0
1983	2440	1064	7	168	437	18	318	091	2	118	88	0	0	0	0
1984	2537	1105	-	181	459	81	327	159	2	127	53	0	0	•	0
1985	262 6	1145	453	\$1	481	17	338	797	घ	133	30	0	0	0	0
1986	2743	1196	457	218	503	3.8	351	191	*	143	30	0	0	0	0
1987	5649	1243	470	232	525	97	363	168	*	149	32	0	0	0	٥
1986	26 67	1279	476	247	540	91	374	171	2	156	32	0	0	0	0
1989	3009	1315	784	201	556	91	379	173	35	158	33	0	0	٥	0
0661	7906	1347	197	275	570	15	343	177	2	166	34	0	0	0	0
1661	5173	1364	\$	289	586	51	\$03	180	17	173	35	0	0	0	0

NOTE: FIGURES IN THOUSANDS

IFM DAILY UPEKALIUNS AND INSTANTANCOU AIRBONN COUNTS

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	1FK PEAK	UAY	LIR NUKMA	LUAT
¥ L n K	UPERALLON LAC	IAL	CFERFILLN	JAL
1.167	1901	574	0463	555
1576	8713	714	700.5	507
1973	45.50	476	1761	358
1750	5513	524	711.2	404
1881	10036	55U	4008	475
7941	69001	581	0403	£ \$ 5
1 583	11333	479	5 6 06	473
1994	1991	769	1544	200
1 43 5	12345	073	6096	519
1,780	14955	71.1	10701	24.2
1 90 1	13487	340	10082	563
1703	10651	760	11018	280
5947	14570	781	दाहार	246
1990	14705	803	11628	612
1441	5+161	478	11964	629

CLEVELAND

		1	DEPARTUR	RTURES	1	1	1	1	(- ((OVERS	(((((0	(
] 	; ; !) 	} }) 		DOME ST.1C	716			DCE AN IC	ی	
	A IRCFT		AIR	AIA	_			ALA	AIR	SE))	AIR	AIR	GEN	
Ρ¥	HANDLED	TUTAL	CAR	TAXI	۸۸I	AIL	TOTAL	S	TAXI	AVI	MIL	CAR	TAXI	AVI	AIL
1 3			;) °		:		;	!	3	3	ľ	1	!	
197	7051	9 4 6 4	100	o c		- F	400	343	3 0	- 0	\$ 0	•	•	•	•
197	1001	600	100	S C		<u> </u>	100	362	•	3 %	7 87	•	•	•	•
1972	1547	5 4	3.5	, ,		1 -	1	35.3	^	70	3	.	> C	> C	o c
1973	1661	298	343	3		16	594	346	1 4	12	1	0	0	0	0
1974	1643	601	326	53		18	1	320	4	78	39	0	0	0	0
1975	1659	909	317	63	Ī	20	644	318	S	80	3	0	0	0	0
1976	1652	909	306	8		19	077	311	•	85	38	0	0	0	0
1977	1766	653	322	2		18	460	324	٥	93	37	0	0	•	0
1978	1878	200	328	85		18	478	326	80	81	38	c	٥	0	•
1979	1984	741	323	707		19	505	332	2	122	38	0	0	0	0
1980	2021	760	878	110	302	19	105	331	11	122	37	0	•	0	0
1961	2104	796	333	12	325	19	80°	327	11	131	39	0	0	0	0
1982	2216	845	338	133	355	19	526	333	ย	141	39	0	0	0	0
1983	2349	668	343	151	386	51	551	337	13	101	ş	0	0	0	0
1984	2425	934	340	161	407	20	557	334	2	169	40	0	0	0	0
1985	2503	965	950	169	470	20	573	339	15	178	7	0	0	0	0
1936	2623	1017	355	161	450	23	583	343	2	188	45	0	0	0	0
1987	2710	1053	365	199	468	21	60 4	348	17	196	43	0	0	0	0
1988	5169	1075	368	8	480	21	619	354	18	50 2	\$	0	0	0	0
1989	2824	1099	37.2	214	492	21	929	358	19	204	45	0	0	0	0
1990	2895	1126	376	224	505	21	643	364	2	213	40	0	0	0	0
1661	2946	1143	378	230	514	21	999	25	21	222	4	0	0	0	0

NOTE: FIGURES IN THOUSANDS

A TELEVISION LINE (IN)

LLEVELAND

1FK PEAK	DAY	IFR NUKMA	L DAY
UPERATION IAC	IAL	U OPENATIUN IAC	IAC
7169	361	1129	323
1211	045	6739	348
80e3	474	1221	374
4178	435	7414	342
9019	454	7768	†0
りかごみ	487	9779	430
9280	975	0188	€03
10303	745	4974	485
10050	676	6146	201
7777	709	6144	530
11030	970	10342	ÚCÇ
11702	140	10572	205
15121	569	10901	574
12411	673	11019	290
12734	180	11310	602

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1	ا ا ا	GEN	4 \ \	°	Э,	0	0	0	0	0	0	0	0	• •	> 0	>		o	0	. c	•	3 (.	.	٥	Ç	0	¢		· c	•	
1 1	DCEANIC	AIR	TAXI	1	9	0	0	٥	0	0	0	0	c	•	-	9		٥	· c		•	> (9 (>	٥	0	c	· c	, c	•	•	
1		AIR	CAR		0	0	0	0	0	0	0	c	• <	•	0	0		c	· c	•	> <	۰ د	0	0	0	c	· c	• •	•	•	•	
OVERS	 	; t	MIL	1	9	49	14	51	47	ş	42	9	, ,) i	14	20		9		2 5	*	44	64	20	40	, C	0 0	1 0	r	ę s	\$	
(1 10	I PEN I	AVI	1	S	99	89	20	87	96	66	40	2,6	071	133	149		148	-	00.	891	190	201	211	27.1	0 2 6	4 (%)	74.7	242	647	592	
1	DOMESTIC	AIR	TAXI	1	0	0	0		4	50	•	9 0	• :	2	1 6	75		1.2		2	R	22	54	52	28	Ş	67	76	55	55	S	
	; } ;	AIR	CAR	1	233	268	564	697	276	270	717	100	187	311	310	333			000	535	939	345	е ж	351	447	,	000	2 (311	382	350	
	1 1 1		TOTAL	-	351	383	379	39.7	7[4	4 11	424	- 74	474	490	506	247		3	F 10	644	576	909	617	63.7	454	r ,	10	169	102	716	739	
	l l		MIL	1	96	. 0) # (*)	, ,		Q	3 3	7 .	3	ş	44	ş	?		\$	4 6	1	4	40	44		C	40	40	4	45	45	
		¥ 45	AV	1	105	113	12	1 36	171	123	714	171	551	212	232	252	Š	,	254	271	767	317	334	361	1 0	200	396	398	404	074	433	1
CE PARTURES	1 1 1 1	317	IAXI		c	•	3 C	י פ	9 6	3 8	F :	74	4 3	4	4	2 3	ξ.	,	51	79	90	16	æ	4	3	ç	101	1 C0	112	116	124	! !
CEPA	1 1	9	A L A	; ;	7	017	273	707	101	167	C 7	178	175	173	- 81		2		180	183	186	100	103		140	194	203	710	212	215	510	
	1 1 1		TOTAL	100		400	370	999	78C	974	472	453	456	× 14) v		676		537	561	265	900	454		6/0	90k	740	760	779	758	124	4 4 7 ^
		1	AIRCFT	MACCU		1059	1123	1111	1157	1270	1201	1330	1336	1424	2004	07.67	1605		1523	1083	2421	0 4 6	1004	674	1795	2010	2154	22.11	2260	2312	1070	TOCZ
			; •	-	1	6961	1970	1261	1972	1973	1974	1975	1976	7	1164	27.61	261		1980	100	4 6	7067	1967	107	1985	1980	1987	1958	1080	000	200	1441

IFR DAILY UPERATIONS AND INSTANTANEUUS AIRBORN CLUNTS

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	IFH PEAK	UAY	IFR NURMA	L DAY
YEAK	YEAK UPEKATION TAN	JAC	OPERATION 1AC	1AC
1571	1416	215	5133	300
1778	1240	979	5445	175
1579	4040	800	5610	166
1 380	9768	400	5912	356
1961	6815	995	6109	37.3
1 482	9184	469	6518	543
1,500	9675	150	6956	421
1764	4427	733	1225	457
7985	10309	151	7531	450
1960	66507	707	7850	415
1461	19601	761	0519	495
1 768	11199	805	8432	910
1 739	11420	618	စုင့်စုရ	775
1 490	11054	930	8815	536
1 99 1	11241	650	9135	155

MINNEAPULIS

i		MIL	9	> c	0	0	0	0	0	0	0	c	0	0	0	0	0	0	0	ပ	0	0	0	0	0
1	֓֞֜֜֜֜֜֜֜֜֜֜֜֜֓֓֓֓֓֓֓֓֜֜֜֜֜֓֓֓֓֓֜֜֜֜֓֓֓֓֜֜֜֓֓֡֓֜֜֜֓֓֡֓֜֜֜֡֓֓֓֜֜֜֡֓֓֜֜֜֡֓֜֜֡֓֜֜֡֓֜֡֓	GEN AVI	[^]	o c	. 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	•	0	0	0
1	UCEANIC	AIR TAXI	6	,	0	0	0	0	0	0	0	c	0	0	0	0	0	0	0	0	0	0	0	0	0
(AIR	°	,	0	o	0	٥	0	0	0	0	o	0	0	0	0	0	0	0	0	0	0	0	0
DVERS)] [] [MIL	9	÷ 4	35	45	147	\$	4	45	38	ያ	89	58	59	58	59	58	66	26	26	59	26	59	9
0 1	21.	GEN	"	n 4	· v	01	71	14	17	18	18	23	53	30	32	34	ç	42	45	47	21	53	53	96	29
	COMESTIC	AIR TAXI	9	o C	•	0	0	٥	0	-	~	~	7	2	7	7	2	m	M	٣	m	m	4	4	4
1		AIR CAR	6	2 &	2 2	151	185	166	166	162	173	3.85	192	194	194	201	506	207	213	219	225	232	2.38	245	157
1) 	TOTAL		110	112	203	240	224	231	223	230	559	282	284	287	295	30.7	310	370	328	338	347	354	364	374
1	l l	HIL	1 7	, o	; ;	32	42	39	44	42	59	69	67	19	99	65	69	62	09	9	2 8	57	5	56	54
1) 	GEN AVI	ļ "	7	. £	74	105	112	130	126	154	184	203	208	225	549	211	687	308	326	345	358	573	386	00+
DEPARTURES) 	AIR		, C	, C	91	25	28	28	56	7.7	દ	30	16	ŧ	35	7	43	4	Š	53	2	8	9	63
DEPAR	i !	AIR CAR	1 2	143	11	747	151	17.	192	192	220	13 3	215	21.9	222	756	758	232	236	239	246	252	256	760	566
1	1 1 1 1	TOTAL		617	189	997	523	155	394	390	460	491	515	:25	747	515	603	020	053	615	704	721	740	762	783
		A IRCFT HANDLED		9 4	064	735	392	976	6101	1003	1150	1241	1317	1334	1381	1445	1513	1562	1620	1073	1746	1789	1834	1988	1940
		¥.	1 3	1970	12.41	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1963	1934	1985	1986	1581	1988	1989	1990	1661

IFE DALLY OPERATIONS AND INSTANTANEOUS AIRBOKN COUNTS

MINNEAPOLIS

	1FR PEAK	}	IFR NORMA	L DAY
YCAK	TAK OPERATION IA		UPERATION 1AC	IAC
1911	N. A.	نہ	3973	273
1978	N.A.	نسد	4364	200
1275	N.A.	نہ	4653	356
1 980	₩.A.	نــ	4751	338
1861	N.A.	₽.A.	075.7	44
7967	N.A.	N. A.	2414	115
1961	N.A.	N.A.	2474	391
1284	N.A.	'n.A.	7195	400
1 985	ĸ.A.	N.A.	2884	774
1930	N.A.	N.A.	6122	454
1501	N.A.	N.A.	0760	450
1 700	N.A.	N.A.	6740	2/5
1221	R.A.	N.A.	901.9	7 24
1 950	N.A.	N.A.	6915	964
1661	N.A.	й.А.	7103	506

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1 1	ا ا	AVI	•	•	0 0	0	0	0	0	0	0	0	0		0)	5 (9 (o (9	•	0	0	0	0	0		
1	UCE AN IC	AIR TAXI	ļ ^s	5 (> c	9 0	0	0	c	0	٥	0	0		0	0	0	0	0	0	0	0	0	0	0	0		
1	(AIR	1	o (0	o c	• •	0	c	0	0	0	0		0	0	0	٥	0	0	0	0	٥	0	0	•		
OVERS		HIL HIL	1	11	4	۶ کا	3 50	*	62	51	3	18	83		82	81	81	87	8	80	٤	79	2	78	79	78		
0	21.	GEN	1	52	31	8 8	, q	1	20	53	8	1	85	}	8	93	\$	113	120	124	131	136	141	142	147	152		
!	DUMESTIC	AIR TAXI		0	0	00	> 6	^	1 4	٠.) oc	α	01	2	12	ย	51	2	7.7	18	2	21	22	1 2	3 6	;;	;	
	 	AIR I	•	111	133	156	131	1 57	142	741	7 6	601	901	133	203	20 P	208	213	212	217	220	226	96.	200	100	676	Ç Ç	
	1 1	101 AL	1	213	238	207	231	730	167	220	200	207	0 10	i n	4 87	100	4	604	3 6	064	654	004	701	714		064	000	
	l !	I E	1	63	9	4	2	4 6	50 i	0 (0 (7 .	56	1.	4	5	7 (7 7	70	7 7	70	4 (70	70	79	19	63	19	
	i i i	GEN	: 1	7.	. «	106	86	107	311	132	ع ا ا ا	157	184	107	ų,	202	177	2.0	700	17	927	301	314	320	327	334	340	
TURES		AIR	7 ()	ک ا	3 <	, 0	ব	23	30	3.5	35	å የ	7	~		20	X !	S	o i	Ξ,	£	# 1 \$0	8	16	93	44	007	
DEPARTUR	1	AIR.	K	ģ	200	P07	179	178	174	193	161	193	208	220		226	229	731	234	237	240	243	249	727	255	259	797	
	1 1 1	9	TOTAL	1	4	310 378	361	572	380	41 6	413	644	464	625	,	542	200	265	621	643	199	060	211	572	136	151	762	
		AIRCFT	H ANDL ED		106	990	959	47.6	166	1090	1080	1174	1340	1435		1467	1522	1587	1665	1716	1761	1830	1986	1922	1949	1992	420?	
			Ŧ	;	1969	1970	1971	1973	1974	1975	1976	11977	1978	62.61		1980	1981	1982	1983	1984	1985	1986	1987	NO SE	1080	000	1661	

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PRECEDING PACE BLANK-NOT FILMED

KANSAS CATY

	; !		776	! '	•	0	o (D (5 (o ()	0 (0	•	0		0	•	· c	•	•)	•	0	0	0	0	0	•	
	: : :	I E I I	7 > 4	! '	.	9 (3 (9 (> 0	> ()	5 (> (0	0		0	0	· c	• •	> (> (0	0	•	0	•	0	•	
	OCE AN IC	AIR	7441	°	> (> (> (> (> 0	•	> 0	5 (> (•	0		0	0	•	•	•	> 0	> '	0 (0	0	•	0	•	
) 1 1	AIR	C	9	•	0	•	9 (•	•	•	•	•	3	0		0	0	•	c	•	•	•	5 (o (0	0	0	•	
OVERS) 	1	!	12	- 4	1 5	2 4) (1	; ;	3 3	7 7	3 6	10	63		85	19	81	81	.	9 6	3 6	2 6	2 (2	9 (6	9 2	
1	5T.IC	GEN	:	\$) i	4 8	3 2	\$	3	9	2 4	Ç q	? ?	• (<u>م</u>	,	86	93	\$	113	120	124		761	001	747	747	141	152	
(DOMEST IC	AIR		c	•) c	· C	· 0	۸ (•	•) «	, α		3	;	7	13	15	2	17	3	3 (3 7	4 6	3 5	3 ;	Q !	72	
1		A 18 CAR		111	133	156	137	135	137	142	144	159	JAR	2	***		203	203	50 8	213	212	211	220	226	9 6	226	107	639	643	
1	 	TOTAL	-	213	238	267	231	230	237	258	254	288	846				282	390	403	423	430	439	450	3	72.7	777	- 6	26	8	
1		MIL	1	63	9	\$	75	\$	58	56	25	59	63	7	•	7	;	70	29	7	61	61	62	62	29	17		3 3	10	
1		GEN AV1	!	78	83	961	86	101	118	132	138	157	184	102		206		177	9	260	274	286	301	314	320	327	*	100) 	
cTURES		AIR TAX1	ļ	0	0	•	77	23	30	35	32	ສ	7	14	:	G.	2 3	t s	λ .	8	2	*	40	19	16	93	16	2	}	
DEPAKTUR		AIR CAR	1	206	727	508	179	178	174	193	161	193	208	220		226	220	י בר	107	*C7	237	240	243	249	252	255	259	261	:	
1		TOTAL		347	376	378	361	372	380	4 16	413	‡	496	675		545	4	8 9	276	770	\$	799	069	712	725	736	751	762	•	
		A IRCFT Handled		404	066	1023	953	974	165	0601	1080	1174	1340	1435		1467	1522	15.87	1946		91/1	19/1	1830	1886	1922	1949	1992	2024		
		£	1	6961	261	1971	77.61	1973	17.	1975	0167	1791	2/1	1979		1980	1981	1982	1983	1001	100	1762	7980	1987	1988	1989	1990	1661		

NOTE: FIGURES IN THOUSANDS

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IFR DAILY OPERATIONS AND INSTANTANEOUS AIRBURN COUNTS

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UPERATION IAC OPERATION IAC 5535 438 4326 355 0205 503 495 401 0205 503 495 401 0205 534 536 459 0206 545 547 439 1236 566 569 454 1016 551 559 454 1016 551 559 454 8104 642 6476 503 8045 640 6476 503 8046 6476 547 503 9417 104 1173 547 9417 104 1204 555 9480 135 140 579 10182 140 579 579 10182 140 579 579 10182 140 579 579		1FK PEAK	DAY	TT NUTA	L DAY
4320 4922 5310 5474 5692 5992 6470 6470 7302 7303	J 1	PERATION	IAC	OPEKATION	IAL
4956 5479 5692 5692 5694 6476 6476 7502 7503		さいない	433	4 350	355
5510 5692 5692 5692 6476 6476 6476 7502 7503		0700	503	7554	3
5692 5692 5994 6416 6669 6940 1173 7502 7503		7600	554	5310	675
5692 5994 6416 6476 640 1173 7502 7503		0714	545	26.75	3
2524 6476 6476 0569 1173 7502 7701		1230	568	25.50	4 4 4
6476 6476 6476 6480 1173 7302 7303		7010	145	36.56	174
0669 0940 0940 1173 7502 7503 7701		8104	779	3170	4 0 0 4
0669 0940 1173 7502 7599 7701		8 4 03	740	0249	503
104 104 104 115 124 135 140 1701		8645	093	6999	415
104 140 1502 124 135 140 1701		1016	60.5	347.0	7 4
740 724 759 135 7503 7701		1746	70.4	1173	7 6
724 7549 135 7563 140 7701		7096	971	700)	444
135 7563 740 7701		9741	724	6467	25.2
740 7701		9980	135	7,44	17.5
		76101	140	7701	572

JFR AIRCRAFT HANDLED BY USER CATEGORY

REGION SUNTHWEST

1	1	립	97	77 -	30 (. ~	w «	۰.	•	٠	4	•	٥ و	•	۱۵	- ~	~	~ -	- w		
1	, 1 1	GEN	-	~ ~	~		, 1 (, ,	m	•	•	n •o	4	۰.	ا ۾	~ ~	۰.	(- 1	~ (-		
1	UCE AN IC	AIR TAXI	0	0 <	•	6 c		,	0	•	,	90	0 (0	00	0	0	90		
1		1 4 8 1 1 8 8 1		- 0				13	3 <u>5</u>	2 2		91	3	2 C	202	23	3 %	*	5 2 2 3		
UVERS	1	- - 표	1 2	201	328	286	291 291	260	316	379		375	371	369	4 4 9 6 8 6	363	359	357	354	1	
3		GEN	٦	37	96 8 6	25	y 9	85	o (115		118	143	165	9 68	202	214	228	240	167	
	DOMEST 1C	AIR IAXI	°	o 0	o 4		8 U	*	2	25		ន	<u> </u>	18	7 %	3 2	92	2 %	33	\$	
	1	CAL	1	181 213	427	225	226	277	263	283 350		366	369	392	395	418	427	437	3	894	
	1 1 1	TUIAL		453	545	610 587	290	576	189	723 887		668	915	973	165	1012	1063	1085	1126	1140	
		311	1	614	470	174	467	744	437	443 468		470	468	0 4	465	404	104 104	462	4 60 4 60	460	
	1 1	GEN	:	158	182	208	255	311	0.00	4 2 6 4 5 6 4 7 6	!	35	809	119	178	824	9 6 6	940	1000	1038	
3		AIR 111	141	0	0	4	3 Å	2;	:	123	ì	7	E	697	272	542	2 52 26 56 26 br>26 56 26 5	307	322	3,5	
	DEPARTORE -	AIR	ž	527	585 554	515	520 541	527	500	596 596	00	4	677	693	35.7	3	756	799	614	8 4	
	1 1 1		TOTAL	1160	1255	1230	1307	1355	1333	1506	0081		1930	2020	2126	22.77	2365	2513	2574	2690	
		A IKCF1	MANDLEU	2773	2983	3070	3201	5316	3340	3699 3467	4-87		4005	4983	5225	93.58 99.58	5774	5969	9529	6398	,
			7	1 646	1970	1971	1973	1974	1976	1977	1979		1980	1982	1983	1984	1986	1987	1989	0661	1111

NOTE: FIGURES IN THOUSANUS PHECEDING PACE BLANK-NOT FILMED

AL BUQUERGUE

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AIRCRAFT
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	I	l '					DOMESTIC	710	((OCEANIC		(
	AIR AIR	y ∢	P I N	MIL	TOTAL	I A I A	AIR 7AXI	GEN I	MIL	4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1	AIR	GEN AVI	MIL
. 1	1	•	! !					1				1	1
_			21	110	172	46	0	6	69	0	•	a	•
			23	125	185	108	0	11	99	0	0	0	0
			₹,	134	504	116	0	=	7.7	0	0	0	0
-			Ş.	119	217	103	0	77	102	0	0	c	0
_			35	163	502	111	0	13	85	0	0	0	0
_			32	172	235	110	0	\$	111	0	0	0	0
		4	74	156	254	112	c	11	125	•	0	0	0
_			43	139	237	113	~	81	105	0	0	0	0
			53	147	276	129	-	22	124	0	0	0	0
- 3			9	159	306	132		92	141	0	0	0	0
			74	176	415	169	7	35	506	0	0	0	0
			78	176	415	174	7	35	504	0	0	0	0
			96	174	415	175	~	38	500	0	0	0	0
ĭ			86	717	420	181	7	\$	197	0	0	0	0
Ň			651	171	450	184	2	ş	18	0	0	0	0
_			117	169	174	1 66	m	4 8	190	0	0	0	0
-:			127	167	430	7 40	m	15	186	0	0	0	0
-			135	166	434	196	ń	23	182	0	0	0	0
_			145	164	435	200	6	55	111	0	0	O	0
,			151	162	440	205	e	25	175	0	•	0	0
Ă			651	160	441	506	4	58	170	0	0	٥	0
Ă		51 1	100	158	**	215	*	29	166	0	0	٥	0
~			172	157	445	216	4	29	191	0	0	0	0

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NOTE: FIGURES IN THOUSANDS

1FK DALLY UPERATIONS AND ANSTANTANEOUS ALKBURN COUNTS

ALGUNULKUUE

	IFK FEAK	CAY	1FK NUKMAL	- UAY
YEAR	AR GPERATION IAL	IAL	UPERATION 1AC	1AC
1771	4034	561	1986	520
1916	دذوذ	279	3614	573
A267	4907	(4)	4352	063
1900	4465	76.2	7244	701
1761	1400	760	の中八十	765
1732	Ú PT C	611	4633	601
1900	2254	145	4761	111
1 784	2448	193	4174	02)
1955	55/3	búe	4005	125
1900	5/00	ol.	9544	73.
1931	2334	270	1904 1080	734
7 90 0	5.950	0.34	C-11.7	755
1909	c023) ço	2508	740
0661	6107	1+0	5273	143
¥651	6.14	7+0	2347	141

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FURT MUNTH

1		MIL	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	•	•	0	0	0	0	0	•
1		CEN AVI		0	0	0	0	0	0	0	0	0	0	0	0	0	0	o	0	0	0	0	0	Ü	0	•
1	OCE ANIC	A IR TAXI		0	0	c	0	0	0	0	•	0	•	0	0	o	0	0	0	0	0	0	0	0	0	0
! !		AIA ABA ABA		0	0	0	0	0	0	0	•	0	0	•	0	o	0	0	0	0	0	0	0	0	0	•
DVERS		MIL	1	87	93	128	125	103	96	101	95	109	63	45	16	92	ţ	95	96	96	\$	101	102	\$01	105	101
0	2	GEN AV1	1	61	22	53	56	31	34	45	7	\$	55	99	89	2	\$	96	105	113	121	130	135	139	3	155
1	DOMESTIC	AIR TAXI		0	o	0	0	0	8	۰	7	2	•	3 0	2	11	13	2	51	17	18	19	2	2	23	5 *
1) 	AIR ARR	1	Ş	82	83	08	8 3	83	2	72	ţ	111	141	145	147	153	159	091	164	171	175	179	184	189	193
1		ToTAL		170	191	734	231	217	217	522	207	528	152	307	314	326	346	366	376	392	60+	425	436	° ‡	465	419
1))	1		180	174	165	191	155	143	132	139	135	119	117	118	119	121	122	123	125	120	126	130	131	132	134
	, , ,	GEN AVI		? 0	36	73	96	95	104	126	139	152	182	617	225	243	266	289	305	320	356	352	301	370	360	388
DEPAKTURES) } !	A1K TAX		c	0	0	18	61	53	43	¥	\$	ż	2	*	3	85	96	103	110	120	127	ž	139	145	751
DEPAK	; ; ;	AIR		216	250	553	212	219	243	248	246	251	274	278	286	291	297	301	705	312	318	328	334	338	344	340
1	 	TETAL		79	200	194	477	487	513	549	558	265	659	₽84	703	733	769	910	838	867	405	935	656	978	1001	1023
		A IRCFT		110	1157	1166	1185	1611	1243	1351	1523	1453	1515	1075	1720	1792	1882	1986	2902	2126	2213	5677	2354	2405	2467	2525
		<u>۲</u>	: 1	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1961	1982	1983	1984	1985	1986	1987	1988	1989	1 990	1661

NOTE: FIGURES IN THOUSANDS

IFR DAILY UPERATIONS AND INSTANTAMEDUS AIRBÜRN COUNTS

FUR! NUKTH

	1FR PEAK	UAY	AFR NURMA	L UAY
YEAK	CPERATION IA	IAC	UPEKAT 10N TAC	IAC
	5818	443	0464	412
1973	4779	451	5208	6
1515	1001	105	9999	£\$3
1530	751	523	9009	456
1201	7675	553	6219	515
1982	1010	269	6627	464
1563	6720	6 45	7010	513
1764	9806	† 09	7205	153
1965	9482	695	7573	55c
1980	9519	128	7690	575
1287	10312	75ċ	TAIR	965
1968	16501	778	0410	503
1 48 4	95901	7%6	8612	622
0.66.1	11162	810	1298	636
1661	1440	808	2406	65 0

HOUST UN

1FR AIRCRAFT MANDLED BY USER CATEGURY

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(GEN C	!	-	~	4	-	-	~	-	7	7	M	*	S	•	٥	S	٥	٥	7	~	7	_	_	_
 	OCE AN 1C	A IR TAXI		0	0	0	0	•	0	0	0	0	0	0	0	•	0	0	0	0	0	0	0	0	0	0
(AIA		7	1	80	12	15	13	13	13	13	13	16	16	17	18	18	20	20	22	23	54	54	25	56
OVERS		MIL	1	9	45	ઝ	101	98	11	65	63	78	85	81	90	80	80	80	81	30	82	81	82	83	83	\$
1	21	GEN	1	*	4	*	_	_	_	_	٥	12	12	14	15	17	19	21	23	25	28	62	31	31	33	ສ
1	DOME ST IC	AIR	1	0	0	o	9	0	٥	_	-	-4	-	-	-	-	7	7	M	m	4	4	ĸΛ	ις.	9	•
1	}	A I A I	1	73	23	25	7.2	31	35	31	37	04	ş	\$	41	14	ş	49	64	20	15	25	53	55	26	23
1	1	TOTAL	į	111	91	101	162	161	138	129	130	152	160	168	170	174	221	181	180	190	707	203	503	212	217	222
{)	¥.I.	1	58 T	187	171	192	193	152	154	152	155	165	175	176	175	174	174	173	174	172	171	170	1 7C	170	169
(;) 	GEN AVI	!	2	83	63	44	109	119	143	\$	767	216	253	529	279	307	334	356	317	297	416	433	644	463	478
TURES] - 	A1k TAX1		0	0	0	91	77	22	88	31	45	\$	5	79	69	75	87	\$	700	113	119	126	484	1+1	141
DEP AK TURES) 	AIR AR	1	210	227	221	205	194	190	167	174	190	\$ 70	228	539	24.7	255	563	270	278	285	7.62	303	311	318	324
(TOTAL		99	497	475	515	517	₩3	764	179	585	140	113	136	077	811	858	093	427	667	1005	1037	1063	1092	1118
		A IRCFT HANDLED		1043	1085	1057	11 86	1195	110-	1113	11.72	1316	1442	1594	1042	1714	1801	1847	1974	20.44	2:35	2213	2273	2 538	1077	2458
		Ā	1	1969	197c	1971	1972	1973	1974	1975	1976	1977	1976	1979	1980	1961	1982	1983	1984	1965	1986	1367	1968	7 9 69	0661	1661

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NOTE: FIGURES IN THOUSANDS

IFR DAILT OFERATIONS AND INSTANTANEOUS AIRBURN CLUNIS

HUUSTUN

	IFK PEAK	740	1FR NUKMA	L UAY
YEAR	UPERATION TAC	IAL	UPERATION IAC	IAC
1977	5790	431	£074	702
1976	0350	27	50.45	175
6161	1112	555	dede dede	39°
1980	7405	554	927	
1 94 T	1111	284	2 2 2 2 2	174
1764	4634	779	277.	474
1763	8 (53	1 4	170	10
1204	2116	1.60	6480	5. 5. 5.
1935	9526	402		•
1 466	C 1017	7.4.6		215
1 20 /	40401) 580 ()	550
7 X	7 6 6 6	0.5	1 02+	ななな
	10/13	323	7039	571
, o, 1	11015	8 4 0	9030	287
1.75.0	11332	318	56/4	604
1641	11038	1.68	8425	500 610

1FR AIRCHAFT HANDLED BY USEN CATEGUNY

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1	v	1	Z E	: 1	c	•	> •	9	0	0	0	c	· c	•	ه د	> (9			0	0	0	0	0	C		· c	• •	> 0	> 0	>	0		
	OCEANIC	1 1 1	AIR	YY	•	> 4	,	0	0	c	· c	• •	• 6	•	> 0	>	0			0	0	0	0	0	· c	, c	ه د	•	5 (0 (0	0		
((1	AIR	CAR	}	9	0	0	0		•	•	> (o (0	0	0			0	0	0	c		•	•	> (o (0	0	0	0		
OVERS) 	1 1		HIL H	1	141	125	126	127			5	771	122	128	143	171	! !		169	165	165		3 .	2 .	2	864	155	152	153	151	147		
	1 1 21 1	1 1	GEN	AVI	ļ	76	19	1	• (77	92	53	35	33	34	47	2	;		25	3.6	3	•	7	2	18	82	06	\$	96	100	105	•	
	DOMESTIC		AIR	TAXI		c		•	•	>	0	0	0	M	•	4	· w	•		•		• 4	۰ ه	•	•	1	=	2	13	13	7	* *	3	
	1 1 1	!	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CAR	1	240	בני		386	313	357	341	345	345	3.5	2 50	1 6	280		26.7		0 10	3	963 963	378	364	388	394	403	404		774	417	
	i i i			TOTAL	-	103	, r	776	533	275	483	474	402	000	, r		9 ·	613			710	100	613	627	622	634	549	154	3 4	200	9 6		199	
	1			1) }	Š.	Ų	1 2 CS	47	9	. d	3 7	3 3	ì	: 1	6 33	88		;	ž B	90	ያ	76	65	0	o o		6 6	9	0	† ®	82	
	1			2 - S																	167	185	208	731		3,5	107	607	3	318	330	345	358	
0 T 71	1 1 1 1			A14	7 4 4 5		c	a		,	7	.	* 1	67	21	87	名	9	•		\$	69	76	,	9	7 6	16	52	113	27	120	132	139	
4	DEFAKTONE			AIR	¥	j	216	21.5	1 0	9	207	210	779	245	244	34	255	נני	•		288	200	017	9 (326	330	342	353	371	381	391	402	774	•
	1				10191	-	116		316	010	335	795	38}	427	475	~	13	3 2 4	0		SOA	3 ;	3	700	132	104	196	836	677	\$0\$	033	199	3	
				A SRCFT	MANDLED		0111		1145	1165	1192	1207	1236	1350	1350	0 0 1		7907	1/83		4.	0701	1090	1977	2091	2150	2226	2314	2605	02.70	26.40	2004	50.07	6) 97
					> 4	•	١	1404	1970	1971	1972	1073	1074	1075	1034	100	7 / 1	1976	261			1980	1981	7861	1963	4367	1985	V 10 F	1000	7007	1700	6961	1990	1661

PRECEDING PACE BLANK-NOT FILMED

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1PR AIRCRAFT HANDLED BY USER CATEGORY

DENVER

		1	LEPARTUR	KTUKES	1		1	((- (((OVERS	1	(((1	1
		 							DOME ST 1C	7.1C			OCEANIC	יַ	
	A IRCFT		AIR	Alk	GEN			Alk	AIR	1 1 1 1 6 1 1	1 1	AIR	AIR	CER	}
Ì.	HANDLED	TOTAL	Š	TAXI	IA	# [TOTAL	CAR	TAXI	١٨٢	11	S I	TAXI	AV 1	딅
6961	593	103	116	ပ	7.7	56	267	193	0	00	99	0	0	0	0
1970	010	167	7.20	7	63	54	276	210	0	10	96	0	0	0	0
1971	610	166	118	0	47	2*	261	210	0	1 0	55	0	0	0	o
1572	969	891	112	41	7.7	2+	260	707	0	01	64	0	0	0	0
1973	030	189	121	۵	47,	28	757	703	0	12	39	0	0	O	0
767	355	193	122	٥	37	2 F	543	191	0	14	44	0	0	0	U
1975	707	2.20	134	11	4	7.7	292	193	0	16	53	0	0	0	0
1,776	722	528	135	13	10	27	270	198	~	17	አ	0	c	0	0
1977	935	697	148	61	o O	34	162	201	7	21	19	0	c	0	G
1978	+76	311	104	67	78	36	302	208	7	5 3	69	0	0	0	0
1979	493	534	179	32	41	32	325	225	~	53	69	0	0	0	0
1980	1022	349	188	, , ,	96	31	324	223	٣	30	69	0	9	0	0
1631	1054	364	196	37	106	30	321	218	4	32	29	0	c	c	G
1982	1100	060	203	39	116	30	328	7.20	1	*	68	0	0	0	0
1983	1173	418	212	ţ	131	30	337	221	v	42	69	0	0	0	0
1984	1111	438	218	P	142	30	335	218	5	‡	89	0	0	0	0
3861	17.54	454	226	20	150	59	344	121	٥	64	89	0	0	0	0
7986	1309	CS.	734	75	191	28	349	223	v	25	69	0	0	0	0
1987	1360	505	947	2 8	170	3.5	356	226		26	69	0	0	0	0
198c	1400	615	253	29	177	7.7	362	558	٥	59	89	0	0	0	0
1989	1440	536	761	65	183	27	368	232	\$	9	2	0	0	0	0
1990	1+42	554	697	¥ 9	191	97	374	735	٥	63	2	0	0	0	o
1661	1: 21	6.70	117	11	196	20	381	25.5	~	67	69	0	0	0	0

IFK DAILY OPERATIONS AND INSTANTANEGOS AIRBORN COUNTS

DUNVER

	IFR PEAR DAY	UAY	IFR NORMAL DAY	UAY
) I	PERATION	JAC	UPERATION	IAL
	3224	780	2827	747
	3101	32.5	3108	260
	4000	544	3512	279
	4745	305	3425	288
	4400	384	2552	667
	4731	405	3693	515
	507*	244	4886	329
	9966	194	+015	340
	5538	197	4140	105
	5850	500	4 303	36.5
	1009	548	0/74	373
	1979	541	4584	390
	0440	563	4123	401
	6999	780	1484	411
	6081	555	4578	423

GREAT FALLS

IFK AIRCRAFT HANDLED BY USER CATEBURY

	£ !	690	010	11.	216	173	74	275	916	77.	978	976	980	181	982	983	984	586	986	1987	986	68 6	066	166
	A IRCFT HANDLED	177	184	106	203	174	761	196	106	0	ပ	0	0	O	0	0	ت	0	0	0	0	0	0	0
• • • •	TUTAL		10										0	0	0	0	o	ပ	0	0	0	0	0	0
OEP A:	CAR	45	? \$	52	31	56	32	34	53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DEPARTURES	AIR	c	0	0	*	4	ო	~	-	0	٥	0	5	0	0	c	c	0	0	0	0	c	c	0
† † 	GEN	Ų	٥	01	3	70	12	15	12	0	0	0	0	0	၁	O	c	0	0	0	၁	င	C	0
! !	MIL	11	13	lo I	20	20	61	17	7	0	0	0	0	0	0	0	c	0	0	0	0	0	0	0
1 1	101AL	55	79	40	75	\$	Ç	9	42	0	0	c	0	Ç	ပ	c	¢	c	0	0	٥	¢	c	C
† †	A 4 4	37	45	?	45	32	35	ķ	27	0	0	0	0	o	0	0	0	0	0	٥	0	c	c	0
DOMESTIC	AIR	•	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	GEN I	2	7	4	+	Š	ĸΛ	•	Ś	0	0	0	0	0	0	0	c	0	0	0	0	0	0	0
OVERS	널	50	18	o,	56	11	50	20	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	CAR	C	0	0	٥	0	0	0	0	٥	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OCEANIC	AIR TAXI	0	0	0	٥	0	c	c	0	0	0	0	0	0	0	0	c	9	0	0	0	0	0	c
1 2	GEN 1	•	0	0	0	0	0	0	o	0	0	0	0	0	•	0	0	•	0	0	0	0	0	0
1	1 1	0	0	0	0	0	0	0	0	0	o	0	٥	0	0	0	c	0	0	0	0	0	0	0

NOTE: FIGURES IN FHOUSANDS

IFR AIRCRAFT HANDLED BY USER CATEGORY

SALT LAKE CITY

1	1 1 .	1 1 1	1	1	1	1	1	1 1	. I E E	1	1	1	!
						!	UCHESTIC	T1C	! !	1	UCE AN IC	. IC	1
	AIR	AIR	S S S	Ī	TOTAL	AIR	AIR	GEN		AIR	A1R TAXI	GEN	· -
	i		:										
	58	0	77	19	171	110	0	٥	55	0	0	0	0
	54	0	12	16	183	125	0	7	21	0	0	0	0
	65	0	16	9.1	188	130	0	^	15	0	0	0	0
	65	4	91	18	187	127	c	80	25	0	0	0	0
	69	\$	19	21	111	124	0	5	\$	0	0	0	0
	72	v	24	21	165	115	0	O.	\$	0	0	0	0
	7.7	_	35	23	174	115	o	CT	64	0	0	0	0
	80	^	33	23	170	117	2	11	4	0	0	0	0
	92	6	\$	37	202	132	2	13	61	0	0	o	0
	16	લ	63	14	236	142	7	18	7.4	0	E	0	0
152	86	ນ	?	<u>س</u>	288	191	m	22	102	0	0	0	0
	9	Ç	2	3	3	9	ĸ			ć	c	c	•
	103	3 3	6.	9	283	7) (¶	7 2		•	.) a	> c
	101	35	C.	9	285	159	4	72	16	0	0	0	0
	110	7.5	100	79	293	162	4	30	36	0	c	c	6
	711	1	1 CB	29	287	941	4	31	95	0	0	0	0
	116	<u> </u>	117	19	790	163	'n	32	9	0	0	0	0
	119	25	124	61	793	165	٥	33	69	0	0	0	0
	125	55	134	61	295	168	1	34	86	0	٥	0	0
	128	**	1+1	29	2 &	172	7	35	8	0	0	0	O
	130	6)	1+1	59	303	174	_	8	83	0	0	0	c
	133	\$	¥	9 Ç	303	117	89	37	81	0	0	0	0
	127	ž	791	56	ć		•	86	7.	c	c	c	٥

NOTE: FIGURES IN THOUSANDS

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IFH DAILY OPERATIONS AND INSTANTANEOUS AIRBURN COUNTS

g	A IR BURN			8
AND	INSTANTANEOUS AIRBURN		DAY	IAC
	VI	SALT LAKE LITY	IFR PEAK DAY	UPERATION
		SALT L		YEAR

	IFK FEAK	DAY	JFK NOKMAL	DAY
YEAR	UPERATION IAC	IAC	OPEKATION IAC	IAC

	2313	237	1998	210
1770	4017	767	4573	1.23
177	2450	350	2873	ાહ
1580	3382	358	2931	919
1991	3284	377	3049	333
7947	2714	391	3252	744
1 763	6104	410	3490	365
1991	4517	420	3601	375
1945	4403	443	1925	385
7 480	4579	454	3962	395
1981	4.31	475	4110	214
2061	2174	†2 †	4219	A14
K 95 T	2134	864	4351	674
1.661	2213	207	0144	435
1 44 1	5455	510	4004	**

	1	1	HIL	1	P M	37	27	21	20	18	18	*	7	15		51	2	2	`	2 5	2	2	1 =	: 2	2 5	2 -	22
	1 2			6	~	0	0	~	m	~	~	~	-	~		~	۰ م	~	۰ ۸		M) př) (°) (r) r	ım
	OCEANIC	AIR		0	0	0	0	0	0	0	٥	0	0	0		0	0	٥	0	0	0	c	0	0	•	0	0
	; ; ;	AIA	§	55	\$	19	3	21	41	47	7	4 8	\$	*		20	25	57	9	62	65	69	72	16	77	82	85
VERS	1 1 1		!	119	131	138	93	58	63	58	62	11	\$ 1	:		75	7	=	11	90	90	82	82	*	82	83	83
0	1 21	CEN 1	!	40	∞	\$	~	~	5 0	•	0	ដ	51			81	61	21	54	92	88	53	31	32	33	35	37
1	DOMES	AIR TAXI	1	•	0	o (0	٥ (0 (3	0 (.	۰ ،			7	~	7	~	m	M	m	m	M	m	4	'n
1 1 1] 	AR CAR	1	20	79	> 0	66	U (7	5 (7	6	2 6		;	96	102	907	711	114	120	521	130	133	138	143	148
1 1		TOTAL		269	105	010	9 5	193	744		1170	24.3	752		č	000	607	000	293	503	313	320	336	\$	355	0	311
		J		•	t -	• •	.				. .									_	_						
1		¥	1 :	77	2.5		2 6	3 6	3 2		7 6		240		. 76	7 7	776	7 6		7	756		, , ,	107	203		2
1		GEN AV I	3) d	3 6	! 2	6	113	137	145	7	734	280		243	000	424	1	7 7 7	7 0 0	40.0	2 4	46.4	12.1			3
TURES -		AIR Taxi	ļ '	> c	• 0	, <u>9</u>	: :	2	37	•	9	22	108		113	122	128	1	152		176	2 1		2 5	8 6	216	;
LEPAR		¥ Š	=	5.86	210	495	526	492	201	200	532	571	586		603	618	9	\$	9	424	687	713	728	1	152	174	•
1		TOTAL	1	673	872	9	876	861	915	925	1041	1136	1212		1541	1282	1327	1387	1426	1471	1515	1570	1606	1041	1679	17.4	!
		A IRCFT H ANDL ED	1881	2047	1502	1366	1945	1914	2013	2043	55.72	2513	2081		2742	2833	2934	3067	3159	3257	3356	34.5	3559	3634	3724	3805	
		۱ ۵	1969	1970	161	1972	1973	1974	1975	1976	1977	1978	1979		1980	1981	1982	1983	1984	1985	1986	1987	1988	1969	0661	1661	

MUTE: FIGURES IN THOUSANDS

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	ا بـ ا	0	00	0	0	0	0	0	0	0	•	c	•	0	•	•	0	0	0	0	0	0	0
1	<u> </u>																						
21	A VI	0	00	0	0	0	0	0	0	0	0	c	0	0	0	0	0	0	0	0	0	0	0
OCEANIC	AIR	0	90	0	0	0	0	0	0	0	0	c	0	0	c	0	0	0	0	0	0	0	٥
1	AIR	0	00	0	0	0	0	0	•	0	0	c	0	0	0	0	0	0	0	0	0	0	0
) 	털	25	0 v	\$	36	38	39	35	45	21	38	7	60 (F)	39	39	41	1,	43	43	4	đ Đ	47	1 4
21. IIC	GEN C	7	n n	•	4	'n	'n	•	_	Φ	2	5	1	77	14	15	16	18	61	20	20	21	63
DOMESTIC	AIR	0	0 0	0	0	0	ပ	0	0	4	~	-	. ~		-	~	7	~	7	7	~	m	m
# # #	I AIR I	\$2	33	35	32	32	33	34	41	40	40	\$	28	9	63	\$	67	69	22	73	16	78	81
1 1 1	TOTAL	8	~ ~	· Φ	7,5	75	7.	75	26	101	103	401	108	112	117	122	126	134	136	140	143	149	154
!	HIL	106	† C	132	120	114	126	125	152	153	134	14.1	142	144	145	146	147	149	150	151	152	154	155
1 1	S E E	64	ر د ع	42	ž	3	Đ	10	į	120	132	1 23	1 4	151	162	169	179	184	19*	199	205	211	217
1	AIR	၁	o c	, ~	~	7	18	61	7.7	37	28	~	\$ 8	2	80	83	99	96	100	36	110	116	120
1	A1R CAR	31.7	7. c.	291	ş	288	767	297	314	332	343	36.7	, S	36.	375	383	390	398	412	420	459	437	\$45
1 1 1	TOTAL	71.5	476 472	472	489	473	208	508	587	645	672	4 1	32	732	162	781	404	427	92,9	876	896	718	937
	A IRCFT HANDLEU	1028	1039	1024	1050	1621	1093	1601	1264	1351	1447	9	15.2	1570	1641	1684	1734	1786	1848	1692	1935	1985	2026
	7	696	970	216	513	416	975	976	116	978	616	000	981	982	683	486	985	946	987	98 6	686	366	166

NOTE: FIGURES IN THOUSANDS

IFR DAILY OPEKATIONS
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INSTANTANEUUS AIRBURN CUUNTS

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A STATE OF THE STA

IFR AIRCRAFT HANDLED BY USER CATEGORY

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			DEPARTOR	KTUKES							CVERS	1	1	1	1
		1 1 1	 	i i i	! !	! !	 		DOMESTIC	TIC	; 		OCEANIC	21	
7	AIRCET	10100	AIK	A IR TAXI	GEN AV1	MIL	TOTAL	1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4	AIR	GEN	411	AIR	AIR TAX1	GEN	HIL
1909	F56	1944	138	0	*	106	185	52	°	1 ~	79	3	10	0	;
1570	1306	167	259	0	36	100	214	8	0	ጣ	18	\$9	a	~	34
1471	1001	0.0	147	O	74	111	221	36	0	m	84	19	0	0	37
761	246	588	707	~	37	3 to 1	160	2.7	0	Ŋ	64	9	0	0	2.7
1473	37.80	185	Z18	7	4	119	171	2:3	0	ĸ	22	15	0	_	21
1474	368	368	707	17	5.3	120	117	52	O	'4.)	25	47	0	М	07
1975	75.6	~ ?	205	67	69	114	106	17	o	4	19	47	0	~	16
1975	452	417	203	23	78	113	118	27	0	4	27	7	0	-	18
1977	1231	404	218	56	100	101	123	28	0	•	2	45	0	~	14
1978	1122	101	234	38	777	103	134	34	c	٥	33	46	٥	-	14
1979	1734	540	243	3	148	101	154	4		•	39	4	0	~	15
1580	1,62	553	152	51	150	101	156	45	-	ထ	38	20	0	7	15
1961	1309	574	256	ņ	159	101	161	\$	-	3 0	36	52	0	7	15
1982	1358	565	263	19	174	701	100	4	~	٥	38	57	0	2	15
1983	1420	979	270	3	185	104	170	64	-	10	38	9	0	7	16
1984	1475	740	277	70	195	105	181	20	-	11	39	62	0	7	૧
1985	1523	18	197	7.3	2.33	101	169	20	7	12	39	65	0	٣	16
1960	1570	899	588	ç	212	101	19*	56	~	11	33	69	0	ю	15
1981	10.28	*17	301	\$	727	704	207	δ¢	~	12	39	72	0	m	15
1986	1067	7.50	308	29	572	110	202	0	~4	21	39	16	0	ሰ	70
1589	1099	745	315	0.5	229	111	4٥2	95	-	13	37	77	0	M	16
1990	1739	191	32.	5	234	113	2117	65	-	14	36	82	0	M	16
1661	1777	ווו	329	95	238	115	223	67	7	14	36	8	Ó	M	91

IFH DAILY OFFRAIJUNS AND INSTANTANEDUS AIRBURN COUNTS

UALLAND

	JFR PEAK	DAY	IFR NURMA	L DAY
TCAR	UPERATION TAL	1AL	UPERATION IAC	IAL
	4	,		
1 16 7	7766	777	22(2	75
1476	2831	546	35.59	047
5261	6361	510	4436	613
1 700	9559	563	1694	285
1 04 1	10/9	545	4034	546
1 40 4	4449	c09	5496	310
1 75 3	5177	470	5556	527
1 434	(14)	450	1766	356
1335	5501	050	5754	946
7 70 6	1056	959	5453	361
1983	6145	071	6167	576
6 64 1	2000	tc1	6210	383
4 26 T	16+3	631	£433	503
1 44 1	0646	270	5097	745
1 44 1	3111	200	UCTO	£0.3

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IFH AIRCHAFT MANDLED BY USFR CATEGORY

NELLUN NURTHHEST

1	UCEANIC	AIR GEN TAXI AVI MIL	1	0 0 0	0		o •	0	0	0	0 0	0	000	0		0	0	0	0	0	0	0	0	0	0	
1		AIR A CAR I		0	0	0	0	o	င	0	0	0	0	0	0	٥	0	0	0	0	0	0	0	0	0	
OVERS		AIL	ţ	40	37	41	35	32	25	77	54	22	23	23	73	24	24	25	97	7.7	7.2	87	53	8	31	
	57.1C	GEN	1	-	-	-	7	7	n	M	•	7	٣	m	* 0	M	*	*	4	4	*	4	'n	Ś	ĸ	
	DOMESTIC	AIR TAXI	1	0	0	0	0	0	٥	ပ	0	0	0	0	0	۵	6	0	0	0	0	٥	c	0	o	
) 	AIR	!	7	æ	Φ	10	*	~	\$	17	74		18	61	70	21	22	22	47	52	56	7.7	28	59	
	! ! !	TOTAL	1	84	4	51	47	64	35	35	39	38	9	4	45	47	64	16	75	55	96	ú,	61	63	69	
	l I	MIL	ļ	4	\$	‡	7 *	L+	58	59	55	55	57	57	57	₽ €	21	57	57	57	57	25	57	58	58	
	l 	GEN AVI	!	ŏ	53	56	57	9	62	*	707	143	155	104	171	188	80 ?	523	245	558	276	290	300	310	314	
DEP ARTURES	† t 1 1	A L N TAX 1	1	ပ	O	6	91	15	20	45	<u>\$6</u>	. 5	82	44	102	109	1117	131	138	143	159	164	170	174	161	
CEP A	† 	A I A	1	100	159	151	137	139	138	132	132	136	143	147	152	151	191	167	171	176	179	187	161	196	661	
	1 1 1	TUTAL	•											403	462	211	244	484	611	635	671	849	718	738	151	
		A IRCFT HANDLED		200	562	553	561	595	631	645	469	196	416	970	1009	59eT	1137	6171	にに	1325	1398	14.54	1+97	1539	1573	
		7	ļ	1969	1970	1791	1972	1973	1974	1975	1970	1977	1772	6261	1960	1961	1982	1983	1484	1985	1986	1981	1981	1989	0661	

NOTE: FIGURES IN INCOSANUS

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	f i	1	MIL	1	o (> <	0	٥	0 (9 c	0	00	•		0	0	0 (> (-	> <	o	5	5 (.	0	
	1	GEN	AVI	1) c	> c	0	0	0 6) c	•	00	,	•	0	9 (> 0	,	> <	> <	> (> (> <	•	0	
	OCEANIC	AIR	TAXI	6	> c	0	0	0 0	> c	÷ 0	0	00		•	5 ()	> <	,	> c	, c	۰ د	> <	o c	• •	0	
	; ; ;	ı	CAR		; o	0	0	9 0	. C	0	0	00		c	> c) (,	· c	. 0	• •	· c	, c) C	• •	5	
UVERS	1 1 1 5	1 1	HIL H	13	37	+1	32	¥	7.	*	22	53 53		23	3 6	24	52	76	27	27	28	53	8	33	7	
	710	SEN I	AVI	~	-	-	~ (u m	m	m	٦ ،	ባማ		.41) M	4	*	4	4	4	4	'n	٠,	ın ır	١	
	DOMES	AIR	T Y Y	٥	0	٥	0 0	0	0	0	0 0	• •		0	0	•	0	0	0	0	0	0	0	e o	ı	
1	! 1 ! #	AIR	£	~	2 0 (•	3 0	~	∞	12	<u>:</u>	97		7.7	07	21	25	22	24	\$2	92	27	28	\$ 6 8		
 		1014		84	9	7	(h)	35	35	т п М	, 4 6	‡		45	47	64	51	7.	ر د ر	0 v	9	70	7) ·	<u>ه</u> ه		
1		411	1	• :	ş 4	17	. [+	28	65	n in	51	75	į	25	25	۲,			• •	- 6	֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֓֓֡֓֓֓֓֡֓֓֡֓֡	- a	0 3	5 80 80		
1		GEN A V I	ļ	5 5 5	n 49	57	09	85	\$ 2	143	155	104	ć	Z ;	198	220	265	760	72.	280	200	000	310	328		
RIURES	:	TAXI		e c	، د	૧	12	20	î Ş	\$	88	ያ ያ	501	201	117	131	138	143	159	\$	170	174	181	345		
DEPARIUR	•	CAR	:	159	151	137	139	138	132	130	143		152	15.7	1	167	171	176	179	181	161	196	199	707		
1		TOTAL	4	258	167	757	261	330	320	97c	437	ĝ	482	511	544	584	611	635	671	949	718	738	151	114		
	Alacet	HANDLED	000	562	563	196	202	695	645	196	\$1¢) ,	1009	1069	1137	6171	1274	1325	1398	1454	1.67	1539	1579	1615		
		<u>ت</u> ا	1966	1970	1971	7161	1974	1975	1970	1977	1979		1980	1981	1982	1983	1984	1985	9961	1767	226	6861	044	7661		. 750

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IFR DAILY OPERATIONS AND INSTANTANEOUS AIRBURN COUNTS

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	1FR PEAR	DAY	1FK NURMAL	UAY
YEAR	UPERALIUN IA	IAL	OPERATION TAC	JAC
	7.786	270	2 441	461
1978	4.270	305	489	2,8
1414	4025	314	3618	547
1980	4877	328	3610	355
1061	2210	240	4000	717
1967	2000	371	4315	187
1983	1470	344	4053	205
1204	ç c 8 9	410	4015	324
1905	6645	25 4	5013	355
7200	7657	354	5253	355
1 98 1	1333	476	2003	570
1 90 B	1504	054	5763	350
4 4 4 4	1111	ناکز	5921	486
1990	7380	516	4,500	395
1 44 1	1218	278	6230	3

	HI.	۶	3 5	13	11	•	•	•	'n	S	S	٥	•	٥	•	_	_	_	7	_	~	_	7	®
2	GEN	; <	0	0	0	0	0	0	0	0	0	0	0	0	0	0	•	0	0	•	0	0	0	0
UCE AN IC	A IR TAXI	 	•	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
!	CAR	=	7	52	88	23	21	2	23	23	54	92	27	28	28	7.2	27	28	53	29	2	53	30	30
1 1	HIL	:	: :	7	•	•	~	٥	m	+	M	4	*	•	*	4	*	+	m	m	m	m	m	m
27.1	GEN	! -	- 7	~	-	-4	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOMEST 1C	AIR	!	•	0	0	•	•	0	0	0	٥	0	0	6	0	0	٥	0	0	0	0	0	0	0
1 1	AIR	:	13	77	E	11	11	~	m	M	M	•	s	'n	5	*	4	4	un.	'n	'n	*	S	'n
1 1 1	TOTAL		6.0	95	62	25	9	3	35	35	35	1	45	43	43	42	}	6 3	\$;	1	43	45	\$
! !	HIL	;	24	27	26	24	22	77	21	20	20	22	22	22	21	21	21	23	22	22	22	22	21	7.7
; ; !	GEN	:	<u>.</u>	±	75	11	12	28	23	34	28	27	30	*	41	F.4	53	29	63	70	*	78	82	99
 	A1K TAX1	°	>	c	4	4	•	20	20	5 *	27	97	27	5.8	98	34	36	38	41	₽9	45	14	64	15
1 1	Alk CAR	:	8 2	09	55	4	55	16	73	28	9	61	65	6 8	12	*	77	8 3	8	J. CO	92	46	97	100
; ; ;	TOTAL		110	101	16	88	95	947	141	136	135	136	141	154	163	176	187	201	710	524	233	241	647	728
	A IRCFT HANDLED		562 262	597	729	228	730	332	314	307	305	513	330	351	369	394	91 +	445	+9 +	765	210	575	543	262
	7	1 3	1970	1571	27.61	1973	1974	1975	1976	1977	1978	1979	1980	1961	1982	1983	1984	1985	1986	1981	1988	1989	1990	1661

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			DE PAN JUR	K JURES							OVERS				
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×	A IXLPT	TOTAL	AIR A	AIK	6EN	 1	TOTAL	A IR	AIR	GEN		A 14 C	AIR	CEN I) = = = = = = = = = = = = = = = = = = =
: 1			5		:	<u> </u>				:					1
1969	301	113	9	c	13	34	75	12	0	-4	17	25	0	0	07
1970	667	116	70	0	19	27	19	13	0	7	11	5 6	0	٥	15
161	7.04	101	9	ی	1,1	7.7	29	7.5	0	-	11	52	0	0	13
1972	756	44	55	•	12	70	62	13	0	~	٥	28	0	0	11
1973	758	88	5	1	11	24	25	11	0	-	20	23	0	0	•
1974	336	95	55	٥	12	22	4	11	0	-4	7	77	0	0	٥
1975	232	140	10	50	28	22	40	7	0	-4	•	20	0	0	٥
1976	41.	141	73	97	27	7.7	3.2	۳)	0	0	٣	21	0	0	Ś
1611	207	130	25	42	34	20	35	m	0	0	4	23	0	0	Ś
1978	300	1.35	09	7.2	28	07	35	6	0	0	æ	54	0	ی	S
1979	513	136	19	97	72	22	7	'n	0	6	*	5 6	0	0	•
1980	386	144	6	7.7	30	22	42	3	0	0	4	27	0	0	٥
1961	351	154	6.9	97	36	22	4 3	49	0	0	4	28	0	0	٥
1982	369	163	7.1	30	7	71	43	s	0	0	4	28	0	ပ	٥
1963	\$,	176	7.4	34	4	77	4.2	4	0	0	4	27	0	0	7
1984	416	187	7.7	36	53	77	745	*	0	c	4	27	0	0	7
1985	445	201	81	36	59	23	43	\$	0	0	4	28	0	0	_
1986	404	710	84	41	€ 9	22	\$	2	0	0	٣	58	0	0	~
1961	7.64	477	48	43	2	77	4.4	'n	0	0	m	59	0	0	7
1988	015	233	6	45	74	22	1	Δ	0	0	m	53	0	0	~
6861	525	747	46	14	78	22	43	•	0	0	m	62	0	0	1
1990	543	647	6	4	82	21	45	'n	0	c	e	30	0	0	۲
1661	295	9 47	001	51	æ	2.1	\$	'n	0	٥	m	30	0	0	10

NOTE: FIGURES IN THOUSANDS

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IFR AIRCHAFT HANDLED BY USER CATEGORY

REGION PACIFIC

			LEPARTUR	TURES	1				i		UVERS				
)))))	1 1 1	!) } !)	DOMESTIC	1 1C	! 		OCE ANIC	2	
7	A IRCET H ANDLED	TUTAL	AIR	AIR	GEN AV 1	#16	TOTAL	AIR	AIR	SEN I	HIL	AIR CAR	AIK TAKI	SEN I	MIL
1969	+14	201	101	0	-	1 %	178	-	°	0	~	82	0	0	ا 3
1970	16.	162	112	c	0	20	173	4	0	0	M	*	•	0	75
1571	144	741	103	c	c	40	149	0	0	0	m	85	0	0	61
7261	471	160	107	ပ	٥	4	139	0	0	0	7	82	0		54
1973	535	161	114	0	~	76	153	0	0	0	'n	75	0	-	72
1974	644	174	111	Ð	7	25	101	0	0	0	m	•	٥	7	33
1975	426	11.	118	L1	7	49	114	-	0	0	'n	72	0	~	35
1976	4.3	156	111	m	7	45	105	~	0	0	1	99	0	-	34
1977	+24	158	113	m	4	39	108	-	O	0	_	65	0	-	3.4
197ē	45C	368	119	٥	Ð	3 b	114	~	0	0	7	70	0	-	35
1979	405	176	125	21	5	34	113		0	0	•	72	0	7	32
1980	475	180	126	71	٥	3.	115	-	0	0	9	7.4	0	~	32
1861	1,81	491	130	13	7	35	115	ત	0	c	٥	74	٥	7	32
1962	86*	161	133	*	80	36	116	-	0	0	٥	16	ပ	7	31
1983	518	o 61	136	4	30	38	120	7	0	0	٥	80	o	7	30
1984	673	407	136	11	11	39	119	7	0	0	٥	80	0	7	58
1965	:45	01.	140	18	12	၁	125	2	0	0	۰	83	0	7	32
1586	205	617	143	17	17	40	121	2	¢	0	9	86	0	ĸ	30
1981	: 86	228	149	(1	16	4 1	130	7	٥	0	٥	88	0	ጣ	31
3861	565	277	151	63	16	74	13)	~	٥	٥	'n	16	0	ĸ	90
1965	910	£39	153	ð	9 [4	132	7	0	0	īV	93	0	m	58
1990	623	11.	156	*,7	61	ţ	135	~	၁	0	v	96	0	ĸ	56
1641	100	750	RCT	56	5 0	40	137	2	0	•	S	86	0	m	67

5U AM

1	1	HIL	1 %	3	2	23	6	91	14	11	12	13	12	12	12	12	=	=	11	9	2	91	٥	2	9	
1	ا پر	GEN	0	ပ	0	6	0	0	0	0	0	0	٥	٥	0	•	0	0	0	0	٥	0	0	0	0	
1	DCEANIC	A1R TAXI	°	0	c	o	0	0	0	0	0	٥	٩	0	0	•	0	0	٥	0	0	0	0	0	•	
(AIR	12	17	15	14	13	12	14	•	٠	11	77	==	10	91	9	æ	3	6 0	€	۵	&	_	_	
OVERS)) 1) (MIL	°	0	0	c	2	-4	~	7	v	'n	*	4	+	*	*	4	*	m	m	7	7	7	~	
· (T1C	GEN	0	0	0	0	0	0	0	0	c	0	0	0	0	¢	0	0	٥	0	0	٥	0	0	0	
(AIR	0	0	0	0	0	0	0	0	٥	0	0	•	0	0	0	0	٥	0	0	•	0	0	•	
 		AIR	7	-	c	c	0	0	-	-	-	-	~	-	~	-4	~	8	N	7	7	7	7	7	7	
1	1 1 1 1	TOTAL	52	4	35	37	96	53	30	53	27	33	28	28	1.7	12	7.2	52	52	23	ຊ	22	21	23	21	
(1 1	MIL	9	13	•	13	27	12	10	_	٥	7	υ	٥	٥	٥	٥	٥	٥	٥	9	9	۰	9	٥	
1))	GEN	0	0	0	၀	0	0	0	c	0	0	0	0	0	0	~	~	~4	q	M	m	*	*	*	
TURES) 	A1R TAXI	°	0	c	0	O	ო	(7)	٣	,-4	0	~	,-4	7	7	7	٣	æ	S	•	٥	٥	9	٠	
DEPART	 - -	AIR	~	~	~		ω	υ	٥	ø	٥	~	~	_	7	~	80	Φ	33	80	٥	3	6	01	10	
1) 	TUTAL	27	0.7	97	97	35	73	21	16	13	*1	1,4	14	14	15	17	18	18	22	23	57	52	56	70	
		A JRCFT H ANDLED	100	48	67	11	128	25	72	57	53	ς, α	26	95	55	57	19	61	19	67	69	02	12	73	73	
		F	1969	1970	11971	1972	1973	1974	1975	1976	1977	1978	19 79	1980	1961	1982	1983	1984	1985	1980	1987	1988	1969	1990	1661	

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APPENDIX

REGRESSION MODEL FOR FORECASTING
"INSTRUMENT FLIGHT RULE" AIRCRAFT
ACTIVITY AT TWENTY-FIVE AIR ROUTE
TRAFFIC CONTROL CENTERS

FINAL REPORT

Contract No. DOT-FA79WAI-071

ASI 0126

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February, 1980

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1.0 INTRODUCTION

This is the technical report on the regression model constructed for the "Instrument Flight Rule" (IFR) aircraft handled at the twenty-five Air Route Traffic Control Centers (ARTCC). The model has been applied to generate forecasts of IFR aircraft handled by each of the ARTCC's for FY 1980 through FY 1991. The forecasts serve as a basis for the Federal Aviation Administration's (FAA) planning and budget process in determining future requirements for facilities, equipment, and manpower at each ARTCC.

Section 2.0 presents an overview of the model for ARTCC IFR aircraft handled. Section 3.0 describes the data bases used in estimating the model and forecasting the aircraft handled for respective ARTCC's. Section 4.0 will describe the procedures used in the estimation of the model and forecasting. Section 5.0 will present the equations estimated for IFR departures and overs, by user type for each ARTCC. Section 6.0 presents statistics on aircraft handled -- departures and overs -- by user type, by ARTCC for both historical and projected years. Under a separate cover, the computer system documentation was submitted to the Policy Information Systems Branch.

pertinent other centers, resulting in the forecasts of overs annually to year 1991. At this point, the forecasting system is "recursive", since departures projections are first derived based on projected independent variables, then the projected departures are used as determinants for the "overs" projections.

After projecting each category for each center independently, the projections were summed over all twenty-five ARTCC's and compared with the national forecasts made independently by the FAA for years 1980 through 1991. The projections based on the "bottom-up" method were slightly lower than the independently projected national totals -- approximately by four percentage points. In order to assure consistency with the national totals, a smoothing routine was incorporated into the forecasting system, so that the center forecasts were adjusted to conform to the national totals for each projection year by user category. Thus, the ARTCC aircraft handled forecasting system is an automated one, allowing human judgments only at the stage of estimating and selecting the equations of the model.

3.0 DATA BASES

Historical data on dependent variables for the 1969-79 period, by ARTCC, were made available from the FAA. The set of the dependent variables are as follows:

Departures

- air carrier
- air taxi
- general aviation
- military

Overs

Domestic overs

- air carrier
- air taxi
- general aviation
- military

Oceanic overs

- air carrier
- air taxi
- general aviation
- military

Historical data for independent variables were collected from 1969, because demographic and economic variables are available at the county level from 1969. The data bases and their sources follow.

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3.1 Population

Population estimates for counties were provided by the Bureau of the Census. In cooperation with state agencies, the Bureau of the Census annually updates the 1970 Census of Population for all counties in the nation.

Population <u>density</u> was computed based on the annual estimates of county population and county land area. County land area data were taken from the 1978 County City Data Book.

3.2 Employment By Industry

Employment by industry is estimated annually by the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce. Due to the lag in the collection and compilation procedure, 1977 data are the most current year available at the county level. The 1978 and 1979 data were made available from ASI's data file, which is the result of ASI's continuing research project, which updates and projects economic and demographic indicators for all counties in the nation.

The available categories of employment are as follows:

Number of Proprietors (Persons)

- farm proprietors
- nonfarm proprietors

Wage and Salary Employment (Jobs)

- farm wage and salary employment
- nonfarm wage and salary employment
 - (a) Private Industries

agricultural services, forestry, fishery and others mining

construction manufacturing

- non-durable manufacturing
- durable manufacturing

transportation, communication and public utilities wholesale trade retail trade finance, insurance, and real estate services

(b) Government and Government Enterprises federal, civilian federal, military state and local governments

3.3 Personal Income And Earnings By Industry

Personal income and earnings by industry are estimated annually by BEA. As was in the case of industry employment, due to the lag in the collection and compilation procedure, 1977 data are the most current year available at the county level. The data for 1978 and 1979 are made available from ASI's data file.

The available categories of industry earnings are as follows:

Farm

Nonfarm

(a) Private

 $\ensuremath{\mathsf{agricultural}}$ services, forestry, fishery, and others

mining

construction

manufacturing

- non-durable goods
- durable goods

transportation, communications, and public utilities wholesale trade retail trade finance, insurance, and real estate services

(b) Government and Government Enterprises federal, civilian federal, military state and local

3.4 Seats Per Aircraft

The recent development of jumbo jet air carriers has caused significant changes in the number of passengers carried by an aircraft. As indicated in the preceding section, this technological change has made a definite impact on the IFR aircraft handled, particularly in the category of air carriers. The data on "seats per aircraft" (air carrier) are available at the national level from the FAA.

Demographic and economic data for the two centers not based in the United States, i.e., Guam ARTCC and San Juan ARTCC, are weak. The historical data for the two areas were collected from respective government agencies. Special care has been exercised in using the data available for these two centers.

The projections of the above-listed independent variables have been made available from ASI's data files, which contain projections (up to the year 2000) of employment by industry, income, and earnings by industry, and population for all counties and independent cities in the nation. The employment and income projections for the Guam and San Juan ARTCC's were made by ASI's staff, by extrapolating the historical trends. Projections of seats per aircraft were made available from the FAA.

4.0 PROCEDURES USED IN MODEL ESTIMATION AND PROJECTION

4.1 Allocation Of Counties To ARTCC

To allocate the 3,141 counties and independent cities to the 23 ARTCC's, a map of the ARTCC boundaries was superimposed upon a detailed United States county map. From this map, counties were assigned to specific ARTCC's. If an ARTCC boundary passed through a county, that county was assigned to the ARTCC which contains the largest city or cities in that county. If the county was a part of a Standard Metropolitan Statistical Area (SMSA), that county was assigned to the ARTCC which contained the SMSA.

Due to the 1976 ARTCC boundary changes, it was necessary to compile two sets of ARTCC county assignments.

A computer routine was developed which built demographic and economic data bases for the 23 ARTCC's based upon the county assignments, as described in the preceding paragraphs. This program creates an output file which contains the 23 ARTCC's demographic and economic data plus seats per aircraft data and the dependent variables for the baseline period.

4.2 Model Estimation And Projection (For Departures By User Category)

The regression model fitted to the data is:

$$Y = a + b_1x_1 + b_2x_2 + ... + b_nx_n + e$$

where:

Y represents the dependent variable (i.e., IFR departure).

 x_1 , x_2 , ..., x_n represents the independent variables.

 \mathbf{b}_1 , \mathbf{b}_2 , ..., \mathbf{b}_n stand for the regression coefficients for respective independent variables.

a is the intercept.

e represents the random variable, whose expected value is assumed to be zero.

Due to the large number of independent variables and the insufficient cumulative body of knowledge and studies dealing with the relationship between IFR departures and independent variables at the ARTCC level, a stepwise multiple regression technique was used for the initial equation estimation. In a stepwise regression, independent variables are entered in single steps only if they meet stipulated statistical criteria. The order of inclusion is determined by the respective contribution of each variable to explain the variance of the dependent variable in question.

The dependent variable, i.e., departures, was regressed against the total set of independent variables, as listed in Section 3.0. This was accomplished by taking one ARTCC at a time, and regressing in a stepwise method each departure category (air carrier, air taxi, general aviation, and military) against that

center's independent variables. Each equation provided by the stepwise regression was screened to see if the result was theoretically "reasonable" and statistically significant.

It was assumed that military departures of a given ARTCC should be related to an independent variable measuring the military activity in that center.

Each equation (i.e., one for departures by each user category for each ARTCC) was re-estimated until it became logically meaningful and statistically significant.

The estimated equation was applied to the projected values of the independent variable or variables included in the equation. This resulted in the annual forecasts of the four categories of IFR departures for each ARTCC. At this point, the summation over all ARTCC's by user category was compared with the national forecasts independently derived and supplied by FAA. The ARTCC forecasts derived by the equations were adjusted to the national totals on a user category-by-category basis.

The estimated equations (for departures) and statistical measures are presented in Section 5.0. The departures forecasts are presented in Section 6.0.

4.3 Model Estimation and Projection (For Overs By User Category)

As mentioned in Section 2.0, logically, it is safe to hypothesize that a given ARTCC's overs for a given user category are a function of other center or centers' departures of the same user category. Now the real question is which "other" ARTCC is the pertinent ARTCC for overs in a given ARTCC. The general regression model of overs in a given ARTCC to be fitted to the data can be stated as follows:

$$Y_{ij} = a_i + b_{ik}x_{ik} + b_{i1}x_{i1} + ... + b_{in}x_{in} + e$$

where:

 Y_{ij} represents the dependent variable (i.e., IFR overs of user type i in ARTCC j).

 x_{ik} , x_{i1} , ..., x_{in} stand for independent variables (i.e., departures of user type i from ARTCC k, 1, ..., n) $j \neq k$, 1, ..., n.

bik, bil, ..., bin represents the regression coefficients for independent variables with corresponding subscripts.

 a_i is the intercept in the equation related to user type i.

e represents the random variable, whose expected value is assumed to be zero.

A stepwise procedure was used in selecting an appropriate overs equation for each user type for each ARTCC. Results were analyzed, eliminating illogical equations (e.g., air taxi domestic overs of Miami ARTCC showed an extremely high R squares with air taxi departures of Honolulu ARTCC).

Many regressions were run until we obtained equations acceptable on the theoretical and statistical ground. It was -as:er, however, to identify pertinent ARTCC or ARTCC's whose

departures indicated a reasonably good fit to the dependent variable. This implies that, as long as we can forecast IFR departures by user type reasonably well, we can forecast overs also reasonably well. This observation represents one of the most important findings of the present research project. The estimated equations for overs, for respective categories for each ARTCC, are presented in Section 5.0.

The projection of overs utilized the same procedures as used in forecasting departures except for the independent variables used, i.e., projected departures of other pertinent ARTCC's. The forecasts obtained from the equations for each user category were summed for all ARTCC's and compared with the independently forecasted national totals, provided by FAA, on a year-by-year basis. The individually forecast overs were adjusted to conform to the given national totals. The adjustment factors ranged from two to three percent at the national level. The overs forecasts are presented in Section 6.0 below.

5.0 ESTIMATED EQUATIONS FOR IFR DEPARTURES AND OVERS

In this section, first, we present the model equations, in a general form, for departures, domestic overs and oceanic overs, separately. Then, the estimated equations for departures and overs, by user type, are presented for individual ARTCC's.

DEPARTURES MODEL EQUATIONS

ACDP =
$$a + b_1x_1 + b_2x_2 + \dots + b_kx_k + e$$

ATDP = $a + b_1x_1 + b_2x_2 + \dots + b_kx_k + e$
GADP = $a + b_1x_1 + b_2x_2 + \dots + b_kx_k + e$
MDP = $a + b_1x_1 + b_2x_2 + \dots + b_kx_k + e$

where

ACDP represents certificated air carrier departures.

ATDP represents air taxi departures and commuter air carrier departures carrying passengers, mail, or cargo for revenue in accordance with FAR Part 135 or Part 121.

GADP represents all civil aviation activity (departures) except that of certificated route air carriers and air commuters.

MDP represents military departure activity.

 x_1, \ldots, x_k represents the significant socioeconomic variables or seats/aircraft.

e represents random variable, whose expected value is assumed to be zero.

DOMESTIC OVERS MODEL EQUATIONS

ACDO =
$$a + b_1x_1 + b_2x_2 + \dots + b_kx_k + e$$

ATDO = $a + b_1x_1 + b_2x_2 + \dots + b_kx_k + e$
GADO = $a + b_1x_1 + b_2x_2 + \dots + b_kx_k + e$
MDO = $a + b_1x_1 + b_2x_2 + \dots + b_kx_k + e$

where

ACDO represents domestic overs of certificated air carriers.

ATDO represents domestic overs of air taxi and commuter air carriers carrying passengers, mail, or cargo for revenue in accordance with FAR Part 135 or Part 121.

GADO represents domestic overs of all civil aviation activity except that of certificated route air carriers and air commuters.

MDO represents domestic overs of military operations.

- x₁, ..., x_k represents the significant domestic departures of relevant air route traffic control centers other than ARTCC-related with the dependent variable in each equation.
- e represents random variable, whose expected value is assumed to be zero.

OCEANIC OVERS MODEL EQUATIONS

ACOO =
$$a + b_1x_1 + b_2x_2 + \dots + b_kx_k + e$$

ATOO = $a + b_1x_1 + b_2x_2 + \dots + b_kx_k + e$
GAOO = $a + b_1x_1 + b_2x_2 + \dots + b_kx_k + e$
MOO = $a + b_1x_1 + b_2x_2 + \dots + b_kx_k + e$

where

- ACOO represents oceanic overs of certificated air carriers
- ATOO represents oceanic overs of air taxi and commuter air carriers carrying passengers, mail, or cargo for revenue in accordance with FAR Part 135 or Part 121.
- GA00 represents oceanic overs of all civil aviation activity except that of certificated route air carriers and air commuters.
- MOO represents oceanic overs of military operations.
- x₁, ..., x_k represents the significant domestic departures of relevant air route traffic control centers other than ARTCC-related with the dependent variable in each equation.
- e represents random variable.

The results of regression for each center is shown below. R^2 values are also given.

ARTCC -- BOSTON

ACDP =
$$179.995318 + (0.0018532)$$
 Wholesale Trade - (3.2410954)
Seats/Aircraft $R^2 = 0.70$

£

ATDP = -1180.606482 + (0.0000922) Population
$$R^2 = 0.87$$

GADP = -110.022249 + (0.0001928) Services $R^2 = 0.94$

MIDP = 20.850848 + (0.0002752) Federal, Military $R^2 = 0.89$

ACD0 = 24.524122 + (0.2884012) ACDP Washington + (0.0423614) ACDP New York $R^2 = 0.61$

ATD0 = 0.214802 + (0.0285946) ATDP New York $R^2 = 0.52$

GAD0 = 16.188963 + (0.0799373) GADP Cleveland - (0.1936175) GADP New York + (0.1003217) GADP Washington $R^2 = 0.44$

MID0 = 61.602675 - (0.1108714) MIDP Miami $R^2 = 0.01$

ARTCC -- NEW YORK

ACDP =
$$6.408328 + (0.0013385)$$
 Wholesale Trade - (3.8381056) Seats/Aircraft $R^2 = 0.90$

ATDP = $-781.573197 + (0.0011720)$ Wholesale Trade $R^2 = 0.52$

GADP = $-450.841700 + (0.0002344)$ Services $R^2 = 0.93$

MIDP = $30.584490 + (0.0000137)$ Federal, Military $R^2 = 0.02$

Ľ

$$ACDO = -181.941658 + (0.8117376)$$
 ACDP Atlanta $R^2 = 0.66$

ATDO =
$$-0.830125 + (0.1942091)$$
 ATDP Washington $R^2 = 0.64$

$$GADO = -4.428168 + (0.2321645)$$
 GADP Washington $R^2 = 0.96$

MIDO =
$$16.613115 + (0.2060530)$$
 MTDP Boston $R^2 = 0.14$

$$ACOO = 13.518364 + (0.1755047)$$
 ACDP Atlanta $R^2 = 0.16$

ATOO =
$$-0.080702 + (0.0192515)$$
 ATDP Washington $R^2 = 0.27$

$$GA00 = -0.073038 + (0.0185362)$$
 GADP Washington $R^2 = 0.37$

$$MI00 = 8.378689 + (0.1363178) MIDP Boston$$

 $R^2 = 0.15$

ARTCC -- WASHINGTON

ACDP =
$$244.753720 + (0.0005519)$$
 Retail Trade - (2.8450433)
Seats/Aircraft $R^2 = 0.49$

ATDP =
$$-275.075626 + (0.0000245)$$
 Population $R^2 = 0.83$

$$R^2 = 0.98$$

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MIDP = 153.564617 - (0.0000996) Federal, Military R^2 = 0.32

ACDO = -68.558009 + (0.8752730) ACDP Atlanta R^2 = 0.77

ATDO = -0.013705 + (0.0568569) ATDP New York R^2 = 0.92

GADO = 4.919781 + (0.2198150) GADP Jacksonville + (0.2162883) GADP New York R^2 = 0.97

MIDO = -36.828991 + (0.8086011) MIDP Boston + (0.1259747) MIDP Jacksonville R^2 = 0.82
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ARTCC -- ATLANTA

ACDP =
$$180.960627 + (0.0017824)$$
 Finance, Insurance, and Real Estate $-(1.5090383)$ Seats/Aircraft $R^2 = 0.95$

ATDP = $-75.094777 + (0.0001287)$ Retail Trade $R^2 = 0.84$

GADP = $-347.077915 + (0.0006015)$ Government and Government Enterprises $R^2 = 0.96$

MIDP = $-1.987690 + (0.0005281)$ Federal, Military $R^2 = 0.55$

ACDO = $21.333714 + (0.6699422)$ ACDP Denver + (0.0192864) ACDP Miami $R^2 = 0.89$

ATDO =
$$0.035987 + (0.0327154)$$
 ATDP Miami $R^2 = 0.17$

$$GADO = 7.886193 + (0.5556890) GADP Miami R2 = 0.99$$

$$MIDO = 66.028689 + (0.1352459) MIDP Washington R2 = 0.02$$

ARTCC -- BALBOA

ACDP =
$$-11.8 + (0.09)$$
 ACDP Los Angeles $R^2 = 0.69$

ATDP =
$$-0.0066 + (0.0469)$$
 Time $R^2 = 0.99$

GADP =
$$-0.727 + (0.327)$$
 Time $R^2 = 0.98$

MDP =
$$7.7457 + (-0.0348)$$
 MDP Fort Worth $R^2 = 0.45$

$$ACDO = -13.82 + (0.07207)$$
 ACDP Miami $R^2 = 0.64$

GADO =
$$-0.979 + (0.009931)$$
 GADP Houston $R^2 = 0.71$

$$AC00 = 18.51 + (0.01707)$$
 ACDP Albuquerque $R^2 = 0.45$

$$GA00 = -0.105 + (0.04323)$$
 GADP Atlanta
 $R^2 = 0.81$

$$M00 = -0.52 + (0.0171)$$
 MDP Houston $R^2 = 0.38$

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ARTCC -- JACKSONVILLE

ACDP = 152.265929 + (0.0003734) Services - (1.4138711) Seats/Aircraft
$$R^2$$
 = 0.72

ATDP = -24.023603 + (0.0000137) Total Employment R^2 = 0.36

GADP = -634.521992 + (0.0001369) Population R^2 = 0.92

MIDP = 205.046281 - (0.0003335) Federal, Military R^2 = 0.19

ACDO = -309.036742 + (1.8015101) ACDP Atlanta R^2 = 0.87

ATDO = -0.034191 + (0.0425073) ATDP Washington R^2 = 0.78

GADO = 6.929295 + (0.1779362) GADP Atlanta + (0.3228026) GADP Miami R^2 = 0.98

MIDO = 28.529144 + (0.4204614) MIDP Washington R^2 = 0.04

ARTCC -- MEMPHIS

ACDP = 14.881450 + (0.0003203) Government and Government Enterprises - (0.4560528) Seats/Aircraft
$$R^2 = 0.81$$

ATDP = -556.761770 + (0.0000747) Population $R^2 = 0.98$

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GADP =
$$-88.970090 + (0.0015283)$$
 Wholesale Trade $R^2 = 0.93$

MIDP = $245.299294 - (0.0015261)$ Federal, Military $R^2 = 0.17$

ACDO = $-319.445081 + (1.5092686)$ ACDP Atlanta $R^2 = 0.89$

ATDO = $0.337340 + (0.2203526)$ ATDP Atlanta $R^2 = 0.83$

GADO = $6.103313 + (0.3746203)$ GADP Atlanta

$$R^2 = 0.95$$

MIDO =
$$96.029455 - (0.3907252)$$
 MIDP Atlanta + (0.3093462) MIDP Kansas City - (0.1006484) MIDP Fort Worth $R^2 = 0.70$

ARTCC -- MIAMI

ATDP =
$$\sim 89.097314 + (0.0000188)$$
 Population $R^2 = 0.69$

GADP =
$$-324.789037 + (0.0001654)$$
 Total Employment $R^2 = 0.90$

MIDP =
$$131.745578 - (0.0013222)$$
 Federal, Military $R^2 = 0.13$

$$ACDO = 15.703556 + (0.0723967)$$
 ACDP Jacksonville $R^2 = 0.11$

ATDO =
$$-0.106742 + (0.0241573)$$
 ATDP Jacksonville $R^2 = 0.21$ GADO + $2.166115 + (0.0141586)$ GADP Jacksonville $R^2 = 0.09$ MIDO = $-8.832209 + (0.1950344)$ MIDP Jacksonville $R^2 = 0.32$ ACOO = $-165.234592 + (0.784506)$ ACDP Atlanta $R^2 = 0.69$ ATOO = $7.454060 + (0.0844017)$ ATDP Atlanta $R^2 = 0.01$ GAOO = $1.164872 + (0.2349515)$ GADP Jacksonville $R^2 = 0.91$ MIOO = $1.477612 + (0.2369403)$ MIDP Atlanta

ARTCC -- SAN JUAN

 $R^2 = 0.23$

ACDP =
$$-223.54 + (0.22856)$$
 PCGNP $R^2 = 0.62$

ATDP = $0.80 + (0.16561)$ Other $R^2 = 0.92$

GADP = $-2.21 + (0.051)$ Trade $R^2 = 0.23$

MDP = $0.516 + (0.0871)$ MDP Miami $R^2 = 0.12$

ACDO = $-10.41 + (0.0530)$ ACDP Miami $R^2 = 0.41$

GADO = $-0.09 + (0.01081)$ GADP Miami $R^2 = 0.64$

MDO = $1.67 + (-0.00665)$ MDP Jacksonville $R^2 = 0.32$

ACOO = $65.7 + (0.0697)$ ACDP Jacksonville $R^2 = 0.77$

=

ATOO = 2.55 + (0.00746) ATDP Miami
$$R^2 = 0.84$$

GAOO = 2.48 + (0.03585) GADP Miami
 $R^2 = 0.58$

MOO = -4.93 + (0.07706) MDP Jacksonville
 $R^2 = 0.32$

CHICAGO

ACDP = 515.659304 + (0.0008717) Wholesale

ARTCC -- CHICAGO

ACDP =
$$515.659304 + (0.0008717)$$
 Wholesale Trade - (3.3391670) Seats/Aircraft $R^2 = 0.90$ ATDP = $-2836.616310 + (0.0001619)$ Population $R^2 = 0.91$ GADP = $-349.899360 + (0.0004594)$ Services $R^2 = 0.95$ MIDP $\approx -12.798863 + (0.0003056)$ Federal, Military $R^2 = 0.96$ ACDO = $-34.515928 + (0.8689367)$ ACDP Kansas City $R^2 = 0.67$ ATDO = $-0.137387 + (0.2306450)$ ATDP Minneapolis $R^2 = 0.80$ GADO = $-21.634382 + (0.1974068)$ GADP Indianapolis + (0.0367632) GADP Minneapolis + (0.1662774) GADP Cleveland $R^2 = 1.00$ MIDO = $-5.941926 + (0.6510443)$ MIDP Kansas City $R^2 = 0.17$

ARTCC -- CLEVELAND

ACDP =
$$131.050097 + (0.0004557)$$
 Government and Government Enterprises - (2.7798249) Seats/Aircraft $R^2 = 0.58$

$$R^2 = 0.94$$

$$R^2 = 0.91$$

MIDP =
$$27.221805 - (0.0001167)$$
 Federal, Military $R^2 = 0.48$

$$ACDO = 45.333368 + (1.0652052)$$
 ACDP Washington $R^2 = 0.80$

ATDO =
$$-0.341385 + (0.1514138)$$
 ATDP Indianapolis $R^2 = 0.90$

$$R^2 = 0.97$$

$$MIDO = 15.468281 + (0.8708189) MIDP New York R2 = 0.17$$

ARTCC -- INDIANAPOLIS

$$R^2 = 0.83$$

ATDP =
$$-752.521224 + (0.0000632)$$
 Population $R^2 = 0.80$

GADP =
$$-271.334120 + (0.0005916)$$
 Services $R^2 = 0.96$

MIDP =
$$51.501329 - (0.0001099)$$
 Federal, Military $R^2 = 0.46$

FEDERAL AVIATION ADMINISTRATION WASHINGTON DC OFFICE --ETC F/6 1/2 IFR AIRCRAFT HANDLED FORECAST BY AIR ROUTE TRAFFIC CONTROL CENT--ETC(U) AD-A090 803 MAY 80 B F HANNAN FAA-AVP-80-4 UNCLASSIFIED 2 ... 2 A0 A 090508 END FILMED FILMED DTIC

ACDO =
$$-109.488382 + (1.0357401)$$
 ACDP Atlanta + (0.0904396)
ACDP Chicago
 $R^2 = 0.79$

ATDO =
$$-0.494144 + (0.1893430)$$
 ATDP New York $R^2 = 0.93$

$$GADO = -7.297578 + (0.4434220) GADP Chicago$$

 $R^2 = 0.92$

$$MIDO = 8.688742 + (0.6158940) MIDP Kansas City $R^2 = 0.39$$$

ARTCC -- MINNEAPOLIS

ACDP =
$$97.737774 + (0.0004592)$$
 Wholesale Trade $R^2 = 0.81$

ATDP =
$$-35.512025 + (0.0005708)$$
 Farm $R^2 = 0.93$

GADP =
$$-212.237521 + (0.0005039)$$
 Services $R^2 = 0.96$

MIDP =
$$30.596544 + (0.0002534)$$
 Federal, Military $R^2 = 0.05$

$$ACDO = 47.107807 + (0.8610035)$$
 ACDP Denver $R^2 = 0.20$

ATDO =
$$-0.146079 + (0.0546022)$$
 ATDP Denver $R^2 = 0.83$

$$GADO = -10.066159 + (0.1120906) GADP Chicago$$

 $R^2 = 0.87$

MIDO =
$$44.730687 + (0.1663090)$$
 MIDP Seattle $R^2 = 0.02$

ARTCC -- KANSAS CITY

ACDP =
$$219.735011 + (0.0014062)$$
 Wholesale Trade - (2.1279772) Seats/Aircraft $R^2 = 0.58$

ATDP = $-257.863446 + (0.0000853)$ Total Wage and Salary Employment $R^2 = 0.80$

GADP = $-674.188406 + (0.0002415)$ Total Wage and Salary Employment $R^2 = 0.96$

MIDP = $46.684990 + (0.0001466)$ Federal, Military $R^2 = 0.17$

ACDO = $-122.835921 + (0.8063043)$ ACDP Atlanta $R^2 = 0.69$

ATDO = $-0.149199 + (0.3276131)$ ATDP Denver $R^2 = 0.90$

GADO = $4.549497 + (0.3625704)$ GADP Fort Worth $R^2 = 0.97$

MIDO = $-9.039823 + (1.8539823)$ MIDP Indianapolis $R^2 = 0.16$

ARTCC -- ALBUQUERQUE

ACDP =
$$36.904360 + (0.0003292)$$
 Government and Government Enterprises $- (0.3529936)$ Seats/Aircraft $R^2 = 0.81$

ATDP = $-112.918411 + (0.0000314)$ Population $R^2 = 0.87$

GADP = -139.759969 + (0.0004836) Government and Government Enterprises
$$R^2 = 0.98$$

MIDP = 328.447584 - (0.0024289) Federal, Military $R^2 = 0.43$

ACDO = -122.496849 + (0.5856773) ACDP Fort Worth + (0.3150360) ACDP Los Angeles $R^2 = 0.69$

ATDO = -0.146079 + (0.0546022) ATDP Denver $R^2 = 0.81$

GADO = -2.030054 + (0.1202734) GADP Fort Worth + (0.0651259) GADP Los Angeles $R^2 = 0.98$

MIDO = -76.782175 + (1.5147714) MIDP Los Angeles $R^2 = 0.54$

ARTCC -- FORT WORTH

ACDP = 124.308959 + (0.0005331) Retail Trade - (1.2415422) Seats/Aircraft $R^2 = 0.65$

ATDP = -549.780892 + (0.000685) Population $R^2 = 0.87$

GADP = -459.946360 + (0.0001760) Total Wage and Salary Employment $R^2 = 0.93$

MIDP = 7.266149 + (0.0013253) Federal, Military $R^2 = 0.87$

ACDO = -142.060070 + (1.5453029) ACDP Memphis

 $R^2 = 0.57$

ATDO = -0.763478 + (0.1865473) ATDP Memphis
$$R^2 = 0.80$$

GADO = 4.429317 + (0.8363322) GADP Albuquerque $R^2 = 0.99$

MIDO = 32.830616 + (1.1011207) MIDP Kansas City $R^2 = 0.20$

ARTCC -- HOUSTON

ACDP =
$$346.403001 + (0.0004920)$$
 Retail Trade - (3.4426843) Seats/Aircraft $R^2 = 0.37$

ATDP = $-104.712537 + (0.0002282)$ State and Local $R^2 = 0.93$

GADP = $-403.651120 + (0.0007237)$ Services $R^2 = 0.98$

MIDP = $90.383197 + (0.0004093)$ Federal, Military $R^2 = 0.27$

ACDO = $-20.739172 + (0.1976833)$ ACDP Miami $R^2 = 0.54$

ATDO = $-0.356742 + (0.2991573)$ ATDP Jacksonville $R^2 = 0.38$

GADO = $0.584457 + (0.1891337)$ GADP Albuquerque $R^2 = 0.92$

MIDO = $-6.509442 + (0.5554455)$ MIDP Jacksonville $R^2 = 0.30$

ACOO =
$$-20.686291 + (0.0963485)$$
 ACDP Atlanta $R^2 = 0.66$
GAOO = $-0.734348 + (0.0260518)$ GADP Jacksonville $R^2 = 0.80$
MIOO = $-4.110318 + (0.2091986)$ MIDP Atlanta $R^2 = 0.35$

ARTCC -- DENVER

ARTCC -- SALT LAKE CITY

ACDP = -37.524648 + (0.0004408) Government and Government Enterprises
$$R^2 = 0.90$$

ATDP = -93.735599 + (0.0003662) Government and Government Enterprises $R^2 = 0.67$

GADP = -54.458314 + (0.0015745) Wholesale Trade $R^2 = 0.93$

MIDP = -276.422144 + (0.0050421) Federal, Civilian $R^2 = 0.27$

ACDO = 13.662954 + (0.3951419) ACDP Los Angeles $R^2 = 0.43$

ATDO = -0.202879 + (0.0928237) ATDP Denver $R^2 = 0.81$

GADO = 3.748001 + (0.0922953) GADP Seattle $R^2 = 0.83$

MIDO = 24.712549 + (0.3498314) MIDP Los Angeles - (0.1050063) MIDP Seattle $R^2 = 0.19$

ARTCC -- LOS ANGELES

ACDP =
$$6.188663 + (0.0003863)$$
 State and Local $R^2 = 0.97$

ATDP = $-463.144054 + (0.0000357)$ Population $R^2 = 0.84$

GADP = $-586.896144 + (0.0000491)$ Population $R^2 = 0.80$

MIDP =
$$261.632463 - (0.0005348)$$
 Federal, Military $R^2 = 0.65$

$$ACDO = -48.487402 + (0.7582677)$$
 ACDP Albuquerque $R^2 = 0.81$

ATD0 =
$$-0.054031 + (0.0471698)$$
 ATDP Albuquerque $R^2 = 0.72$

GADO =
$$0.931075 + (0.1214981)$$
 GADP Albuquerque $R^2 = 0.87$

$$MIDO = 76.526102 - (0.2237568)$$
 MIDP Albuquerque $R^2 = 0.40$

ARTCC -- OAKLAND

ACDP =
$$-495.570984 + (0.0000830)$$
 Population $R^2 = 0.86$

ATDP =
$$-135.764709 + (0.0000626)$$
 Private $R^2 = 0.91$

GADP =
$$-252.089109 + (0.0001325)$$
 Private $R^2 = 0.90$

MIDP =
$$102.347184 + (0.0000768)$$
 Federal, Military $R^2 = 0.04$

$$ACDO = -57.939777 + (0.2762915)$$
 ACDP Los Angeles $R^2 = 0.60$

ATDO =
$$-0.119049 + (0.0125518)$$
 ATDP Los Angeles $R^2 = 0.57$

$$\begin{array}{l} {\sf GADO} = -0.136208 + (0.0580474) \; {\sf GADP \; Los \; Angeles} + (0.0025993) \\ {\sf GADP \; Seattle} \\ {\sf R}^2 = 0.91 \\ \\ {\sf MIDO} = 200.682403 - (3.0429185) \; {\sf MIDP \; Seattle} \\ {\sf R}^2 = 0.58 \\ \\ {\sf ACOO} = -28.654276 + (0.5560337) \; {\sf ACDP \; Seattle} \\ {\sf R}^2 = 0.45 \\ \\ {\sf GA0O} = 0.188781 + (0.0087829) \; {\sf GADP \; Seattle} \\ {\sf R}^2 = 0.18 \\ \\ {\sf MIOO} = 98.560361 - (0.2390190) \; {\sf MIDP \; Los \; Angeles} - (0.8771613) \\ {\sf MIDP \; Seattle} \\ {\sf R}^2 = 0.86 \\ \\ \\ {\sf ARTCC \; -- \; SEATTLE} \\ \\ {\sf ACDP} = 90.870441 + (0.0004482) \; {\sf Government \; and \; Government \; Enterprises} \\ {\sf - \; (1.5128453) \; Seats/Aircraft} \\ {\sf R}^2 = 0.84 \\ \\ {\sf ATDP} = -306.441948 + (0.0001311) \; {\sf Total \; Employment} \\ {\sf R}^2 = 0.83 \\ \\ {\sf GADP} = -396.798848 + (0.0002088) \; {\sf Total \; Wage \; and \; Salary \; Employment} \\ {\sf R}^2 = 0.97 \\ \\ {\sf MIDP} = 73.731846 - (0.0002486) \; {\sf Federal, \; Military} \\ {\sf R}^2 = 0.30 \\ \end{array}$$

ACDO = -9.025862 + (0.1465517) ACDP Denver

GADO = 1.159881 + (0.0147912) GADP Oakland

 $R^2 = 0.81$

 $R^2 = 0.40$

MIDO =
$$17.130482 + (0.1114787)$$
 MIDP Oakland $R^2 = 0.03$

ARTCC -- ANCHORAGE

ACDP = 139.139775 + (0.0006671) Total Wage and Salary Employment
$$-$$
 (1.4810979) Seats/Aircraft $R^2 = 0.86$ ATDP = -46.541874 + (0.0003220) Total Employment $R^2 = 0.94$ GADP = -100.586154 + (0.0015411) Government and Government Enterprises $R^2 = 0.46$ MIDP = -7.054145 + (0.0009959) Federal, Military $R^2 = 0.83$ ACDO = 12.415820 - (0.0200156) ACDP Kansas City $R^2 = 0.01$ GADO = 0.322457 + (0.0556622) Time $R^2 = 0.21$ MIDD = -12.509378 + (0.2505549) MiDP Chicago + (0.0968903) Fort Worth $R^2 = 0.88$ ACOO = 3.039736 + (0.1452115) ACDP Seattle $R^2 = 0.34$ MIOO = 41.776417 - (0.6735634) MIDP Seattle + (0.0619100) MIDP Honolulu $R^2 = 0.69$

ARTCC -- GUAM

ACDP = 1.0123 + (0.000120167) Federal, Military -- Honolulu
$$R^2$$
 = 0.11

ATDP = -16.845 + (0.0009295) Non-Farm Proprietors, Honolulu R^2 = 0.62

GADP = .016666 + (0.25) Time R^2 = 0.99

MDP = 6.3 + (.00000047) Federal, Military -- Honolulu R^2 = 0.45

ACDO = -5.0308 + (.05286) ACDP Honolulu R^2 = 0.64

MDO = 7.126 + (-0.125654) MDP Honolulu R^2 = 0.19

ACOO = 23.19048 + (-0.10714) ACDP Honolulu R^2 = 0.28

GAOO = .279166 + (0.025595) Time R^2 = 0.98

MOO = -39.4796 + (1.5216) MDP Honolulu

ARTCC -- HONOLULU

 $R^2 = 0.33$

ACDP =
$$-3.707771 + (0.0004136)$$
 Total Wage and Salary Employment $- (0.4702268)$ Seats/Aircraft $R^2 = 0.84$

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Fisheries, and Other R^2 = 0.46  
GADP = -35.940968 + (0.0000444) \text{ Population}
R^2 = 0.94  
MIDP = 73.171977 - (0.0006835) \text{ Federal, Military}
R^2 = 0.08  
MIDO = 2.003219 + (0.0139485) \text{ MIDP Seattle}
R^2 = 0.01  
ACOO = -12.954953 + (0.5263688) \text{ ACDP Seattle}
R^2 = 0.52
```

GA00 = -0.016882 + (0.0120864) ATDP Oakland

MI00 = -41.449064 + (2.9771310) MIDP Anchorage

 $R^2 = 0.56$

 $R^2 = 0.86$

ATDP = -7.037602 + (0.0042349) Agriculture, Services, Forestry,

STATISTICS: IFR AIRCRAFT HANDLED FORECASTS, BY USER TYPE, BY AIR ROUTE TRAFFIC CONTROL CENTER, FISCAL YEAR 1980-1991

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#U.S. GOVERNMENT PRENTING WEFFILES TORGERSTARKE 18401

Jana Sala Alama (Salaya Salaya Sa